

QUESTIONS OF THE DAY

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THE INDUSTRIAL
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SCHÖNHOF

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THE
INDUSTRIAL SITUATION

AND THE
QUESTION OF WAGES

A STUDY IN SOCIAL PHYSIOLOGY

BY
J. SCHOENHOF

AUTHOR OF "DESTRUCTIVE INFLUENCE OF THE TARIFF," ETC.



NEW YORK & LONDON
G. P. PUTNAM'S SONS
The Knickerbocker Press
1885

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PREFACE.

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THE nature of this work needs some explanation. When I wrote the first chapter I had merely the intention of criticising in the public press the misconceptions under which the great questions of the day were held by the political powers then in control of the machinery of government. Not alone did the government organs show an incomprehensible ignorance of the true elements of price-making in products, but the public press, the legislative authorities, the public speakers, showed the same absence of a correct understanding of the relations existing between the earnings of the working classes in different countries and the prices of their product. The fact that the American laborer earns more than the European, is still taken as an indication of our inability to compete in neutral markets, or in our own markets, without the aid of an artificial device known as a protective tariff. In all these discussions it is usually overlooked that the labor-price by the piece is the only price, the only wage value, which concerns us. That the labor-price by the piece may be a relatively low one, while earnings are high, has seldom been brought out in the reports collected by our official informants. To all students of the productive processes prevailing in the different countries, and of the labor question in general, the facts relating thereto would have been the only valuable contribution the government's organs could have added to the literature of the day.

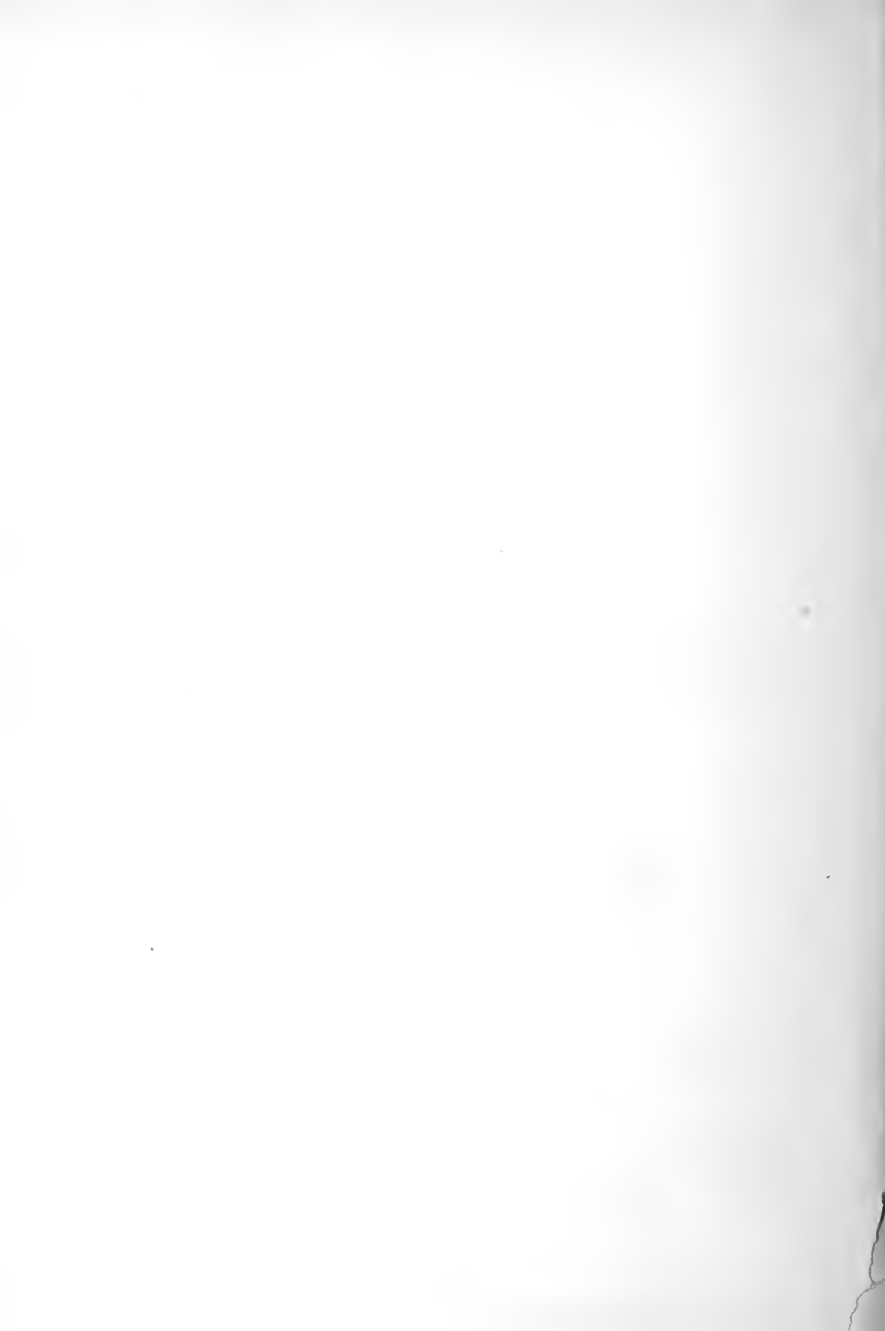
My own experience of business gave me sufficient insight into values of merchandise in general and of the operations all products have to pass through until they reach the final price paid by the consumer. Direct study of the facts opened the lines which I have followed up in this book. It seemed to me of first importance to the formation of correct opinions on the subject at issue, that we should know the methods by which production is carried on here and elsewhere. To this end I deemed it essential to re-

view the great branches of manufacturing industry, principally the manufacture of textiles and of metals, which, outside of agriculture, forms the principal basis of our entire national activity.

Having once entered upon this work, I felt it incumbent to bring out the close connection which production and distribution have with each other, and to show the importance of leaving the latter as free from restraint as the former. Of not less importance was it to show the difference between the value of the product as paid by the consumer and the price paid to the producer, as containing all the elements which contribute to the inequalities existing in society. It is clear, however, that this difference is not to be viewed in the nature of a forced contribution paid by labor to capital, which is the ruling doctrine of socialistic writers ; but as due to various elements of distribution, just as necessary and essential to the well-being of the producer as though he conducted these processes himself. The tradesmen of former times were producer and distributor in one person. The nailmaker in the Taunus villages near Frankfort-on-the-Main, of whom I spoke in a previous work, "Destructive Influence of the Tariff," combines the two characters to the present day. What work he finishes during the days of the week he carries on his back into the neighboring towns and villages on Saturdays. He is producer, distributor, and carrier, and retains all the profits of middlemen and transportation companies for his own use. Yet few would say that his lot is as good as that of a nailmaker in one of our nail-mills. The great lines of activity which modern development has called into existence, have of course done much to disrupt old organizations of labor. The old landmarks, so dear to those who have been reared within their limits, are ruthlessly destroyed. Myriads of independent and industrious producers are swallowed up by mammoth organizations. Wealth is accumulated by fortunate men who are able to control, in production or distribution, the labor result of thousands and thousands of workers. But it would be useless to proclaim against this great revolution wrought by the wheel of time. Great revolutions bring up disturbances of balances. The world is thrown out of gear, so to say. But we have to get accustomed to changes, necessary results of the evolution of the human mind when freed from all restraints.

That only good can come from this ultimately, though the transition period be never so painful, is clear. To show this by a careful analysis of all the organic elements of production and distribution is the aim of these papers, and must henceforth become the principal task of Political Economy. I have attempted to outline the main parts. I have not given more than a mere sketch. I have reserved for a later period the task of following out with greater detail and more scientific precision the lines laid out in Chapter XI. For the present I must confine myself to these narrower limits. Many very important features of our development I have not even been able to touch upon. Much remains to be explained ; many are the fallacies yet to be removed. To this present day the veneration in which capital is held in social physiology is extravagant ; equally extravagant the hatred of capital felt by socialists and labor agitators. In this connection I will only briefly state, that the great cause of misunderstanding lies in the misconception of capital. Capital is usually taken as the employer of labor. The employer, however, is a person entirely independent of capital. He uses capital, either his own, or borrowed capital, or no capital at all, and still he is the employer of labor. As an employer, as an organizer, he earns all the net profits of enterprise, whether productive or distributive.

It is therefore evident, that the usual condemnation of capital, to which we are treated with equal frequency from platforms and the labor press, is meaningless ; as meaningless as the self-glorification set up in the opposite camp. The employing classes, however, will appropriate to themselves the profit share of organized labor, so long as the working classes do not possess the proper skill and knowledge to conduct these enterprises to their own and sole benefit. The tendency of modern civilization is in this direction. But so far we can discover only a drift and a world-wide distance. Education and enlightenment are the guides to all great forward movements of society, and will lead in this instance too. But competition is gradually bringing about the improvement in actual conditions, which has been held to be only attainable by extreme measures.



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CHAPTER I.

OUR INDUSTRIAL SITUATION—THE ADVANTAGES WHICH CAN BE DERIVED FROM A WELL-ORGANIZED, INTELLIGENT CONSULAR SERVICE.

THE most ardent believer in the doctrine "America for the Americans," will not deny that we are commercially interdependent with other nations. The closest constructionist of protection, from the supervising architect down to the humble hod-carrier engaged in the construction and maintenance of our Chinese Wall, must admit that we must look to other countries as purchasers of our surplus products. Of the aggregate of our agricultural produce we have, on a fair average, about 20 per cent. to spare. The manufacturing nations of Europe are eager buyers of our raw materials of manufacture, or of our food supplies. The most patriotic American would rather take something in return than burn or destroy this surplus product of our husbandmen. Barring the Pennsylvania school, no one, least of all our agriculturists, would consider it good economy. In point of fact, we get as much in return as we send abroad. Our wall-builders' honest intentions to the contrary notwithstanding, half of our imports consist of manufactured goods. Of twenty articles of manufacture, in 1860, under a low tariff of an average of 18 per cent., \$180,000,000, and in 1884, under a high tariff of an average of 42 per cent., \$300,000,000, were the aggregate amounts of our imports in the same lines of goods.

Adding duties and expenses collected on imports to their foreign cost, so as to bring values to our basis of prices in like goods, we were still importing in the fiscal year of 1884 :

In silk goods,	150	taking	100	as the basis of our manufacture.
In woollens,	30	"	100	" " " "
In flax and jute goods,	1,400	"	100	" " " "
In cotton goods over,	20	"	100	" " " "
In iron and steel mfgs. over,	25	"	100	" " " "

At the same time the home industries in these very lines are now going through a period of depression and stagnation, the like of which has not been witnessed at any time before, not even during the darkest time of 1874 to 1879.

It will be seen from this that we have to consider very earnestly our foreign commercial relations, and that our foreign connections, along with all competing price-making factors, must be studied from all the points of view which our complex economic system presents. We are an integral part of the great world of commerce. A policy of exclusion may form the religious belief of a few fanatical doctrinaires, but as a matter of fact we are as much connected with the outside world as Pennsylvania is linked to Virginia, and Alabama or Ohio to Texas. Industrial changes in Germany, France, or Great Britain do not affect us any less than Pennsylvania pig-iron is influenced by the advent of Alabama iron upon Eastern markets.

The plain fact, that we are still importing at this time, in the aggregate, of metals and textiles, as much as, and, if counting duties, more by a good sum than the combined imports of Great Britain and Germany amount to in the same goods,¹ ought to prove the utter impossibility of creating an exclusive system by

¹ Imports of	United States,	Great Britain,	Germany.
Woven textiles, 1884	130,000,000	100,000,000	25,000,000
Metal mfts. down to pig and bar, 1884	47,000,000	40,000,000	16,000,000
	\$177,000,000	140,000,000	41,000,000

Adding duties collected on these imports, ours exceed by far those of two of our most prominent competitors, one of whom admits all these manufactures free of duty, while the other subjects them to moderate import duties, averaging on the aggregate of imported manufactures about 12½ per cent.

The account stands then as follows.

Imports of	United States.		Great Britain.	Germany.	
	Duties.	Total.	Total.	Duties.	Total.
Woven textiles (millions)	64.	194.	100.	3.	28.
Metals	16.	63.	40.	1.	17.
Million dollars	80.	257.	140.	4.	45.

any rational or even semi-rational device. On the other hand, we are not alone capable of holding our own in the markets of the world with our agricultural products, but are under-selling and out-stripping pauper countries in their best markets. But what is more striking in this field of economic phenomena, we are in many branches of manufacturing industries the best and cheapest producers, not only able to compete with, but to undersell the most-developed and best-equipped manufacturing nations of the Old World. In the better grades of cotton goods, brands like Wamsutta and New York Mills, we are underselling the British in their own markets. It may be said that the cost of British labor, approximating that of ours in cotton mills, is not a very striking illustration, and that Continental labor being so much cheaper will be more difficult to deal with. To this the answer is, that it is just this low-priced Continental labor which is guarding itself by tariff taxation against the products of high-priced British and American labor. Before the German tariff on cotton goods was raised in 1879, American shirtings were exported to Germany. This, in the teeth of a low rate of wages, and a much longer day of toil, and a lesser restriction in the employment of children than in Great Britain or America up to recent times, when by a system of more rigid factory legislation the employment of children under twelve years in factories was prohibited. The keen eye of trade, governed by facts and prices, had been making use of these chances long before the State Department entered into the business of reporting things which were known, and of not reporting things which were little known, but very desirable to know. How could it be expected of our prejudiced patriarchs of the old régime, of the Bourbons of protection, in the State or Treasury Department, to understand that the result of low wages can be any thing else but cheap goods and a consequent flooding of our country with these pauper fabrics, and the only remedy a new addition of taxes? How could they be expected to understand that the result of high wages and of a high standard of living might be cheap goods and a threatening danger to countries of a low standard of living and correspondingly low wages? This is so beyond all theories of the very respectable and learned doctors and text-book writers that it could not possibly be true, if, alas,

the facts did not all point that way. Now, I know well enough that facts not in keeping with the theories handed down by venerable authority are no facts which a good and true disciple of the orthodox school need believe in. I shall therefore bring some very positive proofs and official figures, collected by the best and most reliable authorities. They may not be absolutely correct in all cases, but they are the best that can be had. They are collected by official bureaus, which fact ought to be conclusively convincing to protectionist readers at least.¹

The rates of weekly wages in cotton factories stand about as follows in the United States, Great Britain, and Germany for 1880 and 1881 :

	Massachusetts. 60 hours.	Great Britain. 56 hours.	Germany. 66 to 78 hours.
Men . . .	\$6.67 to \$10.09	\$5.28 to \$8.40	\$2.38 to \$4.09
Women . .	4.38 to 4.90	3.90 to 4 56	2.14 to 2.38
Lads . . .	2.79 to 2.97	2.16 to 3.04	

These rates would indicate, if taken by themselves, the utter hopelessness of English competition with German cheap labor, and of our competition with either. But the reverse is the case.

On the one hand, we have a descending rate of wages in the ratio indicated above, and on the other hand, prices of goods in an inverted proportion to the smaller pay of the working people of the different nations compared. I have pointed out these seeming contradictions in "Destructive Influence of the Tariff" and "Wages and Trade" (G. P. Putnam's Sons). But assuming the true theory of wages to be this: 1. "That the standard of living of the working classes determines the rate of wages; and, 2. "That where the standard of living is highest, productive power and invention find highest development, and production is cheapest," this seeming paradox offered above finds easy explanation. To be able to bring positive proof for what might otherwise be called fantastic reasoning, I requested a friend in Germany

¹ I am not at all a thorough believer in the infallibility of the official fabrics called statistical reports, but I have verified by comparison wherever there was room for doubt. *Cogito, dubito, ergo sum* is good doctrine in all that aims at human progress.

to send me a collection of samples of German cotton fabrics, with lowest price quotations. I received them a short time ago. They are from one of the oldest and best-reputed cotton mills of Southern Germany (Mechanische Baumwoll-Spinnerei und Weberei, Ettlingen, Baden). They are well-known brands to me. Some thirty years ago, when an apprentice, I had to handle them so frequently that the numbers and qualities impressed themselves sufficiently upon my mind. The prices are somewhat higher than they were then. The changes which have taken place in the industry here and in Great Britain seemed hardly to have affected the Continent.

Comparing these samples with our own goods of like quality and finish, and reducing metre, width and length, to our inches and yard measure, and German money to American money, I found them to be about twenty per cent. higher than our own cotton goods, as may be seen from the list of prices of corresponding American fabrics. (Both lines of prices reduced to net cash.)

White Muslin.	Cents per Yard.	
	American.	German.
30 in. N. Y. Liberty	4.62	6.20
33 " Gold Medal	5.40	7.00
32 " Hill	6.40	7.10
36 " Barker Mills	6.88	8.15
36 " Langdon G. B.	8.50	9.90
36 " Wamsutta	9.75	11.75
36 " Pride of the West	10.45	12.00
36 " $\frac{7}{8}$ Shrunk	7.75	9.00
36 " Dwight Anchor	8.25	10.50
Colored Linings.		
26 in. Glazed Cambrics	4.12	4.25
26 " Cambrics	4.50	5.60
36 " Silesia	7.25	8.50
36 " " finer	9.50	10.00

If any thing, I found our goods purer and better, having more good cotton to the pound than the Ettlingen goods under comparison.

In close connection with this I will point to the fact that in

1878 some of the most advanced cotton manufacturers of Markt-Gladbach and neighborhood (the Rhenish Manchester) made an inquiry into the reasons why all their cheap labor and extended hours do not avail against England's opposite policy. They found that long hours are too strong a strain upon the frame of the operative, and that shorter hours are economically the cheapest. They formed an association to reduce the daily working hours, which at that time yet extended to some fourteen hours, but the movement went to pieces from the opposition it met with from the majority of the cotton manufacturers.

I found an occasion to make a comparison of a similar nature in metal work lately. A German manufacturer, formerly a resident of the United States, lately visited this country. His factory works are well situated. The communal lands and forests yield such abundant revenue that they not only are sufficient for purposes of taxation, but frequently yield a surplus to be divided among the villagers. The women till the small farms and the men work in the factory, except at harvest time. Wages are low. Two marks a day is considered good pay. The works employ five hundred hands and produce annually \$200,000 worth of goods. Yet when I received from him a statement

- (1) of the value of materials consumed in this production,
- (2) the amount of wages paid for work, and
- (3) the amount remaining to pay for profit and expenses,

I found that the percentage allotted to each of these three factors is nearly the same as in like industries of our own. From this it appears that our labor, being paid three or four times as much, must be three or four times as productive as German labor in order to arrive at like results.

Unless this were so it would be incomprehensible that we export annually from thirty to thirty-five million dollars in metal goods to other countries, where we have to meet this foreign competition on even grounds, besides overcoming the higher cost of our materials, which are tariff-taxed, while the English at least are free. We are sending machinery and locomotives to Liverpool to be shipped from there to Buenos Ayres, etc., pay double freight, and still undersell Great Britain and Germany either in quality, adaptability, or price.

From the foregoing, it appears that if all things were equal, or if the earnings of the working classes alone were to determine prices, we should stand little chance in the markets of the world. But things are not equal. They are not equal in any two countries. Nor do the earnings of the working classes determine prices, but the amount of work which they produce for a certain amount of pay is the determining feature. It would be very interesting for us to know what is equal and what is not—why we excel in some of our industrial enterprises, and why we are far behind in others. It would be of great value to our industrial classes to learn about the modes of production, the kind of power employed, whether hand or steam, etc., and principally the amount of work turned out by a competing industry for any given amount of pay. It would be of interest to know which industries are remunerated by the piece and which industries by the day, etc., etc., or what proportion of each system of pay is borne by each industry.

It would be interesting to learn to what extent the system of domestic industry has made room for the factory system—in what branches the former or the latter prevails. It would be of interest to learn what number of hands is employed in the different countries to produce the same amount of work, etc., etc.

We have now an extended Consular Service at our command. The State Department is publishing reports from our consuls at given periods, which contain some very interesting reading matter, but very little which goes to the root of these questions. Some few years ago feeble attempts were made to enlighten the public on these very points. The work on Cotton and Woollen Mills in Europe, Commercial Relations of the United States, No. 23, 1882, has some reports which do full justice to this matter. The report of the Consul at Manchester, Mr. Shaw, was as complete a piece of reporting as could be expected from any one similarly placed. The conclusions to be derived therefrom, however, were so absolute a refutation of all the then orthodox views of American statesmanship, that he soon was persuaded to desist from reporting things not in keeping with the teachings of the holy books of the dominant creed. After this attempt we hear no more such dangerous facts as this, that so far as work and

wages were concerned, our operatives earned more money than Lancashire operatives, but did considerably more work and produced cheaper goods by the piece ; that this advantage was lost again, however, through the greater cost of coal, machinery, building charges, and taxes, etc. A subsequent report from the same source tried hard to overcome the impression produced, but fortunately this one stands, and what is more, all facts prove it to be correct, and that it is the best piece of reporting that has ever been published by the State Department. It shows what invaluable service our consular system can be made to yield to the country if in proper hands, properly directed. In the hands of officials subservient to the priests of the Pennsylvania deity we shall not get more than, for instance, what our consuls in Germany produced. Some, like our Consul-General at Frankfort-on-the-Main, extolled the beauty of the protective system and the great advantages accruing to the empire by its return from free trade to protection. The good man did not tell us that in manufactured goods Germany always had a protective tariff, and that from 1873 to 1879 free trade had only existed so far as cereals, provisions, and pig-iron were concerned. As those were being taxed, a compensating increase of duties on manufactured goods had to be granted. This is the Alpha and Omega of the great protection revival of which so much ado was made by our consuls.

That German manufacturers do not view the new tariff with the spirit which our consuls would impute to them, is proven by the reports of the German Chambers of Commerce. The manufacturers consider a tax upon their materials and upon the food of their operatives a burden, and look with dismay upon any threatened increase.

By other representatives of our consular service in Germany, the revival of trade coincident with the inauguration of the new tariff law was made use of as an illustration of the invigorating force of a protective tariff. This is in the line of our home argument, which refers all the ills and woes arising from business stagnation, panic, etc., of 1884 to the change (a reduction of an average of 1 per cent.) of the tariff in 1883. The consuls never mention the fact that German manufacturing industries were never more flourishing than from 1872 to 1875-6, the time of the

creation and rule of the same free-trade tariff which (in the eyes of our consuls) had to do service as a destroyer from 1876 to 1879.

What we want to learn is nothing but the truth, the whole truth, however. For this men are required who are capable of seeing the truth, and seeing the whole truth. To see the truth in economic matters presupposes the training for the subject, an open eye, and an open head. There is a great gap to be filled yet. Neither the government nor the press have so far supplied a want which is daily more keenly felt by all thinking men. I refer to the employing of the honest, unbiassed, fact man. Government statistics, government research, have so far been influenced too much by political or worse considerations. The newspaper office, the editor's chair, is an adjunct of the counting-room. The true and great facts which underlie the creation of prices and conditions of product and production, of distribution and consumption, are either touched upon in a meaningless or misleading manner, or are left outside the scope of inquiry.

Government might be expected to supply this great want in an age when the humblest individual is as eager for the news of the day as only the man of leisure was a generation ago. The thirst for information is second only to that for food and drink. Economic data, especially of an unerring kind, are looked for with growing interest. The importance of publicity as a corrective to evils arising in the body politic, in the social organism, in the world of trade, manufacture, and commerce, is recognized by all. It is admitted that fullest publicity of corporate management is about the only remedy which, under our present development, we can apply to the many crying abuses which have been practised upon us. To-day the railroads of Massachusetts are those managed with the nearest approach to honesty to its stockholders and fairness to the public, mainly by a rigid enforcement of the law governing the publication of accounts; a clear proof of the importance of publicity given to facts relating to the movements of great interests. The greatest interest which man has in any thing of this world, however, is that centring in his own immediate means of existence. These are prominently dealt with as subject of this treatise. Nothing can be of more interest to workingman or

capitalist, employer or employé, than a knowledge of the conditions under which foreign countries, with whose labor products we come in daily contact, perform their work. In this we might have expected the fullest aid and information from our foreign office. But alas, what we gleaned from the pages published in monthly volumes was not of that nature. Of course for such work a staff of competent men is required. Whether the spoils system was able to supply this kind of men may be questioned. That this class of men must be selected to fill the principal consulates, cannot admit of any doubt in view of the immense pressure of the commercial and industrial situation. That the services of men of the kind, that could and would do justice to these requirements, could not be secured so long as the iron and wool combination directed the helm, needs no demonstration. To what extent the ruling powers were guilty in spoiling even good material is attested by a United States Senator, who writes to me from Washington :

"I am glad you are going to write up our consular system. I have information, which I regard as positive, that our consuls do not regard their places as safe unless they send reports such as will please the 'protection element' at home, and I have seen letters from some of them showing how the most valuable parts of their reports were cut out after they reached this country, which facts I intended to lay before the Senate before the close of the last session, but was prevented from doing so by other Senators, friends of these consuls, to whom the letters were written, as they would lose their places if the truth were told.

"The consular reports for the last two years, at least, have become mere partisan presentations of the virtue of protection."

The immeasurable benefits which might be derived from a properly organized and directed reporting agency are so pronounced that little need be said in its favor. But good reporting can only be obtained from a thorough mastery of the subject to be reported on. The best results can be guaranteed if done through properly organized government channels, as government can at all times command good services, provided work is not required which militates against the self-respect of those intrusted with it. To suppress truth, to state half truths, to color facts so as to please superiors in office, is not work that ought to be asked of the officers of the republic.

CHAPTER II.

THE VIEWS ENTERTAINED AT HIGH QUARTERS COMPARED WITH
THE REAL FACTS—LOW WAGES AND LOW LIVING GOING
HAND IN HAND WITH LOW PRODUCTIVENESS.

THE letter from the late Secretary of State, Mr. Frelinghuysen, on "Labor in Europe" recently published, has brought out at last in full the wage statistics of foreign countries, on which the protectionists had been feeding the public for so long a time. The Republican Campaign Committees during the fall of 1884 made the freest use of these statistics of labor, supplied by our consular service, for political purposes in the most misleading manner. We all remember the handbills and cards scattered broadcast all over the country. True as far as the statistics of the earnings of laborers in foreign countries went, the inferences and explanations drawn from them were the reverse of what the figures really represented. I called attention at that time to the fact that things were fully as bad as stated; with the proviso, however, that they were worse where the protective policy had the fullest sway, as in Germany, while in free-trade England, as by the showing of these very campaign reports, wages were nearly double those of Germany.

The letter from the Secretary throws a great deal of additional light upon the subject, so far as statistical facts are concerned. The letter speaks of the especially abject condition of labor in the Taunus and Spessart mountains, in Silesia and Thuringia, where the house-industries are still clung to with a tenacity of which only the very low standard of living and wages can give adequate explanation. In "Destructive Influence of the Tariff," and "Wages and Trade," I spoke of those poor toilers, a description of whose destitution and poverty and mode of living would hardly find belief among American readers. I feared then I might be suspected of exaggeration. I dwelt as little on these facts as possible. It will always remain an unpleasant piece of work to draw the curtain

from the dark misery of the social problem. The true historian of his time, however, has no alternative left but to state facts. That my facts were not overdrawn is now proved by the State Department in this recent publication. Factory labor is better remunerated than the labor in the house-industries. With what doggedness, however, the working classes cling to the latter system and the quasi-independence and higher social position guaranteed thereby, is shown by house-industries of Rhenish Prussia and Westphalia, Thuringia, Silesia, etc.

Alphons Thun, in a work published in 1879 ("Die Industrie am Niederrhein"), gave some very interesting information on the conditions of work and the system of labor prevailing at that time in the Lower-Rhine country of Germany. I was surprised at the extent to which the domestic system was still prevailing in this most advanced industrial part of Germany. In the metal industries of Solingen, Iserlohn, Remscheidt, etc., forging, grinding and finishing were nearly all done by different small masters, who take the work from the "manufacturer" and bring it back after each stage to give it to the following procedure. The "manufacturer" gets his samples from the master and takes orders wherever he can find them. The consequence is a system of under-bidding for the markets which presses hard upon the master, who again tries to get even by returning slighted or inferior work. Complaint is made of needles having no eyes, of clasp knives without blades or with blades which don't move, being shipped to foreign countries. The truck system, which existed up to 1849 in its most disgusting and repelling form, being prohibited, there is still a mild type of it virulent now. Usually a cousin or a relative of the manufacturer occupies the position of examiner of work returned by the workman and likewise that of a storekeeper. It depends on the amount of goods taken in lieu of wages whether the work is criticised more or less severely or perhaps rejected altogether.

In Crefeld, the centre of the German silk industry, the same system of industrial subdivision prevails—the conditioner, the weaver, the dyer, the finisher, "the manufacturer." Far back into the country the silks go out to the handloom-weaver, who, with his whole family, in busy times, is at work from early morning to late at night, weaving the flimsy thread into all sorts of stuffs. When

work is plentiful, wages and earnings and living are high. From all sides and occupations hands are drawn in to learn the trade, and to be workers and earners after a few weeks of apprenticeship. Then the weavers accept good material only for the chain; they are independent and dictate their own terms. But depression shows at once the very reverse, and makes suffering the more intense, as good earnings in the house-industries are apt to tend to increased families, whose members are very early helpers, but very undesirable inmates in hard times. Their stomachs have to be filled, work or no work. Now, the manufacturers pay reduced wages—when there is work. Then the whole family go eagerly about in their emaciated condition to finish the work, to obtain the scanty earnings to buy bread. The “manufacturer,” however, is exacting now, though he supplies inferior material. By greater skill and harder and better work the master has to overcome and improve its conditions. We hear then of cases of deductions and exactions which would furnish material for a counterpart of “Uncle Tom’s Cabin.” I read of a case in Viersen, 1877, where a velvet weaver had died still in debt to the manufacturer for an advance on his loom. The widow, who had just recovered from a confinement, finished the piece of velvet, and on returning the same had the full amount of the debt deducted from her pay and was dismissed with just four German pence, about one cent in our money; four hungry children were awaiting her return.

Now 1878 is a great distance from 1885 in this time of rapid changes of industrial development, and I had thought that the factory system to some extent might have supplanted the domestic system. But we find in the report of Consul Potter, of Crefeld, published in the Secretary’s letter, that ninety per cent. of all the silks and silk goods made in Crefeld are made on hand-loom in the homes of the weavers.

The report goes on to say: “This is called ‘home industry,’ and its continued existence is threatened by the gradual introduction of power-loom, and, of course, factory centralization. Although the hand-weavers of Crefeld are only enabled to maintain existence by long hours and unremitting toil, they will fight for their ‘house-industry’ to the bitter end, the decrease of wages

and its attendant poverty consequent upon the encroachment of the factory system making the fight all the more bitter."

Then it goes on describing the idyllic beauty and simplicity of the weaver's home-life. But I pass this by, and will only point out that we have here for the first time an intimation by a consul that there may be differences of working methods which may make a vast difference in the result. Of course he does not say that we may be the gainers in the comparison, but he points to facts at least which ought to have been brought to light long ago by our authorities.

In the whole mass of information brought out by the State Department, we find only one sentence which is an intelligent explanation of cause and effect. Mr. Consul Smith, of Mayence, states: "In Germany less is expected of the workingman; less is paid for, and consequently less is rendered. Conditions there are more fixed, and the demand for promptness of execution not so imperative."

This seems to cover the problem so far as Germany is concerned, and is a fitting answer to the remarks of Mr. Secretary Frelinghuysen in the concluding pages of his letter. He says: "It would be a legitimate field of inquiry to ascertain what are the conditions which enable England to manufacture machinery and other products at less price than similar goods can be manufactured in France, and at prices equal to those in Germany, while the rates of wages paid to the workmen engaged in those manufactories in England are on the whole higher than those paid for similar labor in France, and, as the foregoing table shows, more than double those paid in Germany." And, I may add here, America, paying higher wages than England, is excelling them all in cheapness wherever she has an even chance to meet foreign competition.

The answer is not very difficult. Man is above all an organic being. From childhood to the grave he does battle for his existence. Every breath of air, every motion of the muscles, is a waste of tissue. His food is only so much matter added to his system necessary to re-create what is constantly subjected to disintegration. It is the fuel necessary in creating the working power which we see turned into labor and production. A half-

fed or under-fed body can no more produce full results than an engine not sufficiently supplied with fuel or a horse half starved. If we applied the same rules to the labor question, which no one in his right senses would disregard, in these two other categories, we should meet with less crudeness in the treatment of the whole subject.

An Englishman eats more and better food than a German, and he does more and better work than a German. An American eats more and better food than a German or an Englishman, and he does more and better work than a German, Frenchman, or Englishman.

I will give the bill of fare of a family of three in a village in the Taunus, near Frankfort-on-Main, as witnessed by the author of "*Fünf Dorfgemeinden auf dem hohen Taunus*" (Five Village Communities on the High Taunus) during his stay of three days with that family.

Saturday : Breakfast, coffee and bread with jam ; dinner, potatoes and coffee ; afternoon, coffee and bread with jam ; supper, potato-cake and coffee.

Sunday : Breakfast, same as above ; dinner, rice soup with potatoes and one pound of soup meat ; afternoon, bread with jam ; supper, potato-cake and coffee.

Monday : Breakfast, same ; forenoon, bread and cheese ; dinner, potato soup and bread ; supper, potatoes and coffee.

I find full corroboration of this by many authors as the rule in other districts, and—no wonder—the small earnings would hardly permit of more sumptuous feeding.

This under-fed, half-starved German labor is frequently found to produce the saddest results. We find scrofula and hunger diseases to an alarming extent. In the Taunus villages and other districts alluded to, few young men are found strong enough for the army. Italians are employed for the harder work of road-building, they being found stronger. The descendants of the conquerors of Rome, of the giants whose very appearance made Rome tremble, have become so weakened through hereditary anæmia, caused by poor feeding, that for work requiring muscular exertion they must have recourse to the descendants of their ancient foes, who were a byword of weakness to their forefathers.

Science has endeavored to remove the question from the hazy region of conjectural guesswork. It has been proven that excessive hours and insufficient nutrition are not alone a hindrance to immediate good results, but do infinite harm of a lasting nature, in that they sap the best forces of the body. Dr. Jaeger, "Die Menschliche Arbeitskraft," says: "So long as there is a sufficient quantity of oxidizable matter (fats and sugar) in the body, the albumen in the substance does not suffer from exertion. But as soon as the former is consumed, the albumen is attacked by oxygen to the detriment of the living substance, whose structure is thereby impaired. Upon this rests the damaging influence of over-exertion coupled with under-feeding." "The greater," he says in another place, "the quantity of albumen in the muscle, the greater its excitability in a physiological sense and its elasticity, the greater its power of endurance, the higher its natural capacity and rapidity of working power." "Only if there is a sufficiency of recuperation can working and vital power be maintained" (Dr. Heinrich Fränkel, 'The Daily Working Time'). Roscher, Lujo Brentano, and others might be quoted. Roscher says: "Antiquity has very correctly pictured Heracles, the greatest worker, also as an extraordinary feeder." Lujo Brentano says: "A steady increase of the wants of the workingmen, aside from all other beneficial results, is the safest guaranty of an increase of their productive capacity."

Few, who have given close study to this subject, will deny that Germany's low wages and low standard of living, coupled with excessive hours, are a drawback, and not an advantage to her industrial development. Germany has not yet regained the position which she occupied in the fifteenth century. Neither her industrial position nor the general well-being of her working classes is now what it was then. Great national calamities have wrought her ruin. She is manfully battling upwards. But the way to regain lost position is not through taxation and low wages. We may admire the plodding patience, the deep sense of duty, the courageous endurance of her working classes, and may draw many a fruitful lesson; but let us be watchful against the heresy that low wages mean cheap production.

In the following pages I shall endeavor to prove, as fully as pos-

sible with the present means of statistical inquiry, that countries whose productiveness of labor has attained the highest potency, are those whose earnings and wages are highest ; and that, inversely, low wages and low productiveness go hand in hand. I shall, to this end, treat the great branches of national industry separately, and review the same as they appear under the working methods of competing nations. It will be seen that the views formerly expressed on the situation by our consuls to the State Department, were widely divergent from the stern facts of reality. In truth, by the misconception of the true state, the service adds to the difficulties of our position by fortifying the perverted notions of our lawmakers with apparently logical support, which, if scrutinized, would prove the reverse of what the consuls attempted to convey.

CHAPTER III.

COTTON GOODS.

IN "Wages and Trade" I brought out a table of the raw materials consumed in the textile industries of the United States, the United Kingdom, and Germany, and of the number of hands employed in each industry in each of these countries. A division of the amounts consumed by the number of hands employed gave these results :

PRODUCTIVE CAPACITY OF ONE OPERATIVE IN THE UNITED STATES, GREAT BRITAIN, AND GERMANY, TAKING 100 AS THE UNIT OF THE UNITED STATES.

	Cotton.	Wool.	Silk.
	lbs.	lbs.	lbs.
United States	100	100	100
United Kingdom	67	77	81½
Germany	27½	60	68

The tables were reprinted by the London *Times*, and from there found reprint in the press of the United States and Germany.

Statistics of this kind, however, need some explanation.

The average reader is apt to take them without questioning their meaning. To the economist they mean, that in wool, 100 lbs. in America may be an entirely different thing from 100 lbs. in Germany or England. The same quantity may be counted in a condition not yielding by a good deal what it yields in other countries, as is the case in American wools. In silks a similar objection may be raised against my method of testing national productiveness by a division of the number of operatives employed in the industry with the pounds of raw silk entering into consumption. The pound of silk may be used in costly fabrics, consuming much time in their production, while other silks may be used for plain

work entailing far less labor, consequently allowing more silk to be handled by the same number of operatives in a given time. None of these objections however can be raised so far as the cotton industry is concerned, or certainly only to a very limited extent.

The gross statement above, of course, shows in a very striking manner the superiority of American work and organization. The low productiveness of German mill-hands compared to American work, as illustrated above, would be difficult to believe, if we had no other proofs. In a report on the spinners and weavers at Ettlingen by the consul at Mannheim, of which I spoke in a former letter, we find 1,100 persons employed on the premises. Had the consul stated the amount of raw cotton consumed, we could have computed the productiveness of the help. We might have had an explanation why the average weekly earnings of a mill-hand are not more than \$2.16 (\$2.380 is given as the pay-roll). Standing by itself the statement leaves the impression that pauper labor at \$2 a week is a dangerous competitor against New England labor at the average of \$5 a week, as in the census year. But, judging from the size of the mill as known to me, I do not think that an American mill of the same extent would use one half of that number of people and would turn out more goods into the bargain. The great number of people employed in the cotton industry of Germany is rather startling in its meagre results when brought in comparison with the great output of American cotton mills.

Germany's consumption of raw cotton is about 300,000,000 lbs., with 250,000 people returned as employed in specific cotton industries, while America's consumption in specific cotton industries is 750,000,000 lbs., with only 172,000 workers.

Cotton, as said before, is an especially suitable field, as this is the only industry in which the nature of the stock is not materially different in either country, as might be the case in silk or wool, and as factory labor is the labor chiefly employed in it by all manufacturing countries. Germany, however, still has a very large number of small establishments in the cotton industry employing under five hands. These are counted in in the grand total and somewhat modify the above given result. In 1875 there

were 1,597 spinning establishments employing 66,675 hands ; of these, however, there were 1,079 establishments employing only 1,477 hands, while 518 factories employed 65,198 hands. In weaving, 1,108 factories employed 70,437 hands, while there were besides 96,480 establishments returned with 133,052 hands. The consumption of cotton was at that time not more than 250,000,000 lbs., and if we take the 135,635 persons employed in factories alone as engaged in the work of turning into cloth and yarn the entire 250,000,000 (not counting at all any share in the turning process of this raw material which the 134,529 persons engaged in house industries might have in it), the productive capacity of German mill-hands in the cotton factories would not exceed 1,800 lbs., against 4,350 lbs., as the yield of American factory operatives. In neither of these statements have I included any hands engaged in dyeing, finishing, knitting in hosiery or other small cotton industries, but simply those engaged in the specific cotton industry.

Comparing Germany's productiveness with that of Massachusetts in specific cotton industry by the number of spindles and looms and the number of hands employed in operating them, we get the following results :

	No. of spindles. ooo omitted	No. of looms. ooo omitted	No. of hands. ooo omitted	No. of spindles to 100 hands	No. of looms to 100 hands
Germany . . .	4,700	84	136	2,740	62
Massachusetts . .	4,200	95	61.8	6,763	153

According to this, 100 operatives operate fully two and one half times as many looms and spindles in Massachusetts as in Germany, and this showing corresponds accurately with the relative proportion of pounds as given above—viz., 1,800 lbs. measuring the productive capacity of a German mill-hand, and 4,350 lbs. that of an American.

To our capacity of competing favorably with England, I have referred in Chapter I. As to France, she fortifies herself by discriminating duties against our cotton manufactures,—a formidable proof of her incapacity to combat our staples on even terms.

For our comparison, however, the exhibit of Germany is fully sufficient. It is a convincing demonstration of the working capacity of the two kinds of labor : that of the United States, representing the best-paid labor; and that of Germany, representing, under like working methods, and considering the necessities of civilized life, the poorest-paid labor in Europe.

And yet with all these facts before us, of course never clearly brought out, the late Secretary of State in his letter says :

“The textile manufacturers of Europe, in their active competition with each other for leading positions in the valuable markets of the United States, have brought about an increased production and an annual decrease in the price value of their fabrics, and consequently the increase in the quantities imported is relatively much larger than in the values. This decrease in price and increase in quantity have their influence in regulating the wages in our mills, which must manufacture fabrics and place them on the domestic market as cheaply as the foreign manufacturers.”

And this is said when we have duties on cotton goods of 40 and fifty per cent., duties more than twice as high as the whole labor cost in cotton goods amounts to, which according to our census is, with all our high-priced labor, 29 labor and 71 material. As the duty is collected on the combined cost of labor and material (assuming that the relative labor proportion in Europe were as high as here), the duty collected would cover the foreign labor cost of 29 by 138 or more than four times, counting the duty as 40 per cent., which it frequently exceeds very largely in some fabrics. But in goods which we have firmly established here we could remove all duties at once, and we would not import a yard so far as prices are concerned. What we import now are not any specialties of ours, which we produce on our 11,000,000 spindles when we have work for them. What we do import are goods in which other nations have peculiar adaptation by cheap hand labor, such as in cotton velvets cutting the pile, or in embroideries, laces, curtains, netting, or fine light fabrics, when we have not been able to spin the yarns, though we have tried it by imposing high duties on them, at the rate now, even after the reduction of 1883, of from 41.29 to 51.84 per cent. This is protection with a vengeance. England has particular advantages in yarn spinning. The long training of her operatives and especially climatic influences in fine

cotton spinning are recognized by all the world as factors which cannot be circumvented. Germany and France import yarns largely from England, and use them in weaving their finest fabrics, which we are prevented from doing by a stupid tariff, and are compelled thereby to import the finished article ready made. This we call protection. Prevention would be a more fitting term.

No government report can alter this—that our commanding position in the cotton industries of the world is to-day an acknowledged fact. Our export trade is growing slowly, and if it is to-day only \$12,000,000 against \$11,000,000 in 1860, a quarter of a century ago, we have to thank our government for this state of affairs and the preventive measures by statute. Our cotton manufacturers and operatives have long ago solved the question of free trade and protection. Every shipload of cotton goods consigned to China, every bale going to England or Holland, every case which has to meet in sharp competition “the pauper labor of Europe,” is a most potential argument for free trade and against governmental interposition, an argument which could not be improved in its force by the sublimest piece of oratory.

CHAPTER IV.

WOOLLENS—SHOWING HOW CONSULAR REPORTS OUGHT TO BE
CONSTRUCTED, TO BE OF ADVANTAGE TO OUR INDUSTRIES.

A GENTLEMAN of the very highest authority in textile matters writes to me : " The consular reports, while they give a great deal of valuable information, finally fail of their true purpose because they give no results—that is to say, no clue by which it can be determined how far the rate of wages indicates the cost of labor. For instance, one of the consuls did give the conclusion, and this made his report the only one in a particular volume that was of any real value. Treating the conditions under which a common woollen cassimere is made in Belgium, he gave an exact description of the machinery and its cost, which was a little higher than the same machinery would have cost in this country. He gave the product of the machinery, and its kind, which did not vary materially from the product here. He gave the rates of wages, about *half* what they are in this country, and the condition of the laborers not *half* as good as in this country. There he might have rested, and his report would then have been as perfect as the rest, but he added the *number* of laborers required to operate the machinery. This gave the key to the whole condition. There were two and a half working people in that mill to one in New England, and, although the rates of wages were lower, the cost of labor was higher ; still the mill had a huge advantage over New England, for the reason that all the materials used in it were free of duty. A unit could be chosen in every consular district similar to the unit of the common cassimere. For instance, in Lancashire, any specific kind of cloth made in a large way ; in Scotland, the ton of pig-iron or the staple tweed ; in Bradford, a given variety of worsted goods ; in Germany, a dozen stockings or some specific article of woman's dress goods made of wool. Each of these

being fully described, after the manner of the consular report of the woollen mill in Belgium, would give a clue to the actual condition and to the actual cost of labor, and would fully explain why the high wages of Great Britain are consistent with a lower cost of goods than can be found anywhere on the Continent."

The same authority states that under the administration of the State Department under Mr. Evarts forms were prepared by him which covered the above subjects of inquiry, and, if they had been transmitted to our consuls with instructions to report only what came within the reach of the plan laid out, results would have been obtained of a highly satisfactory character. Nothing came of it, however, and the plan referred to was probably pigeon-holed under the succeeding administration.

As to the specific application to woollens, the turnout of mill hands in France may be of service in this inquiry. I will cite the report of Mr. Consul-General Walker of June, 1882, in Consular Report No. 23. His report is exceedingly valuable, and contains a great deal of useful information, but, the great pity, almost all final points referred to above are left out. Once in a while, however, we get at the number of hands and the quantity of work produced. It is further to be regretted that most of his statistics go back to 1869 and 1870, and are most likely taken from reports of government commissions under the imperial government. As France, however, is not a country of very rapid changes in economic matters, the figures may serve our purpose.

1. A spinning-mill at Roubaix has 11,000 spindles, 22 self-acting mules; 250 hands earn \$111.76 day wages, or 45 cents, and turn out 600 kos. or 1,344 pounds of carded wool yarn. As there are 30 dyers employed in the establishment sharing in these wages, this yarn is to be taken as dyed. The wool, however, enters the mill in the scoured condition, as there are no washers or scourers enumerated. We have here a statement which permits us to draw comparisons, although we know nothing of the quality or number of the yarn: 220 engaged in spinning 1,344 pounds of yarn (including carpenters, engine-tenders, and firemen); 30 engaged in dyeing 1,344 pounds of yarn. One hand turns out $6\frac{1}{10}$ pounds of yarn spinning at a cost of 44 cents or $7\frac{1}{2}$ cents a pound, and 44 pounds of dyeing at a cost of 53 cents or $1\frac{1}{4}$ cents a pound.

This brings the outlay for labor per pound to about $8\frac{1}{2}$ cents a pound, and comprises nothing but simple rough mill labor, without counting the cost of coal, etc., or the labor of employés or overseers.

From reports like this one we could easily draw conclusions and make comparisons if we knew, for instance, the exact nature of the yarn spun. The machinery used is mostly all English machinery. Neither English nor American spinners would have so vast a force at work to turn out so small a product.

In dyeing no such force would be required in America as in Roubaix. One of our most skilled dyers, a gentleman who stands at the head of his art in this city, tells me that four dyers and two helpers would dye and make ready for the market with greatest ease 1,000 pounds of yarn a day, and that 1,200 pounds is a fair estimate of a good day's work. The pay here would be \$15 a week for the dyers and \$10 for the helpers. Let us see how the labor cost of \$15 dyeing compares with \$3.18 dyeing :

Dyeing at Roubaix 1,344 pounds a day, 30 dyers, at a cost of . . .	\$15.92
Dyeing in America, say 1,200 pounds a day :	
Four dyers, at \$2.50	\$10.00
Two helpers, at \$1.66 $\frac{2}{3}$	3.33—\$13.33

Taking 10 per cent. off Roubaix to reduce the quantity to New York's quota, we have \$14.32 against \$13.33, or still a small margin in favor of American labor to make up for a possible excess of estimate. Of course, comparisons like this must not be taken as absolutely conclusive in all their details. The French, taking more time, produce better and richer results. The fact, however, that hundreds of thousands of yards of foreign dress goods are imported annually in the gray to be dyed here in American dye-houses shows that we are pretty well advanced in the arts, as the colors we produce in French cashmeres have to sell with the best French—a fact which goes far to prove that it requires not alone good dyeing, but also good materials in the fabric that is to be dyed to insure success. All our tariff stipulations have not yet succeeded in making American wools fit to be used in fine woollen dress goods. They may make a good-enough article as far as it goes, but it is not the soft cashmere that is wanted, and whatever is made here successfully to compete with foreign goods is made of the same foreign, mostly Australian, wools.

2. Take a mill at Elboeuf producing 100,000 metres of plain woollen cloth (reduced to American weight and money) :

(a) Material :	75,625 pounds of fine German wool at $81\frac{1}{2}$ cents . . .	\$63,062
	75,625 pounds of other wools at $45\frac{1}{2}$ cts.	34,834
	151,250 pounds shrinks to 121,000 pounds, value . . .	\$97,896
Cost of coal		3,532
Cost of other materials		9,107
Total materials		\$110,535
(b) Labor :	Washing, dyeing, sorting, etc., of the wool ; spinning, weaving (power-looms), fulling, dressing, and finishing 263 hands, annual earnings	\$41,937

The average labor per year is \$159, against America of \$298, in a year of equally full employment. The respective percentages of material and labor, however, stand as follows, taking 100 as the product (no account being taken in either case of expenses, profit, wear and tear, or interest). We have for France, material, $72\frac{1}{3}$; labor, $27\frac{2}{3}$; for America, material, 79 ; labor, 21. In the French mill 263 hands work up 151,000 pounds of wool, or 580 pounds per head, while ours work up 1,640 pounds per head.

There is, however, this to be said, that the French work up finer stock and put proportionately more work into Elboeuf goods than we put into our general line of woollens ; but both being of a higher grade, it would seem that the two relative degrees (stock and labor) balance each other. Our wool, on the contrary, enters in a less-advanced condition into our mills, and would lose considerably in conditioning it for the first processes of manufacture. On the other hand, however, the French mill uses nothing but pure wool, while our material (taking the whole annual production as our part of this comparison) is very largely increased by the addition of shoddy, hair, cotton, etc., which addition to the bulk would fully compensate for the loss the wool sustains in scouring, and being all worked by the same total of hands in woollen mills would closely bring up the general productiveness to the weight in wool quoted as being worked up by an American woollen-mill hand. (Counting all spinning materials used in woollen mills, such as shoddy and cotton used in mixed textiles, and dividing them per capita, 3,406 pounds would indicate the productive capacity of American operatives against the 580 pounds of fine wool worked by French hands, noted above.)

On the whole, the greater product of an American operative is obvious from both systems of computation, and their larger earnings are fully explained. It may safely be said from what appears from the facts stated, that, throwing all benefits of any doubt into the foreign part of the scales, so far as the labor cost of such woollen fabrics which can be manufactured here is concerned, it does not exceed the foreign-labor cost to any very large extent. Whatever can be done by machinery is fully as cheap. The higher earnings are balanced by larger product. The differences against us in fine all-wool fabrics seem to lie mostly in :

First.—The greater cost of wools by means of tariff taxation.

Second.—The greater cost of hand labor, wherever it has to be used extensively to give the finish to the goods.

When, as in our woollen production, the material counts more than three quarters and mill labor not one quarter of the combined value, and this one quarter can be proven to be far more productive than foreign labor, then it is clear that the differences must be looked for in other directions than the higher cost of our labor, which higher labor cost is usually given in explanation of the large importations of woollens taking place all the time under a tariff protection of 75 per cent. The suggestion of Consul Frisbie, at Rheims, in warning against the Cobden Club and its unholy mission, is not at all sufficient to explain the conundrum. Free wool and an average tariff of 25 per cent. would be a far more effective preventative against the danger of foreign woollen inundation than our present 75 per cent. tariff and taxed wool.

Considering the heavy duty on raw wool—all the way from about 40 to 100 per cent.—while duty-free with all competing nations, we need not go far to find the cause of our inabilities. There is, however, another point which is the strongest argument for free selection of wools all over the globe, unhindered and untrammelled by any law. First, the influence of soil and climate upon the growth of the fibre. This cannot be transported. Even breeding cannot overcome natural impediments of this kind.

The alkaline soils of most of our Western Territories give wools which are ill adapted to compete with the soft, elastic staples of other climes. But, aside from this, the nature of wool-

selection is more determined by fashion than any thing else. The industries of all countries are affected by her whims, even those with free wool. How much more we, with a custom-house fine of 10 cents on each pound of wool imported and of 20 to 25 cents extra fine on the dirt and grease which has to be washed out of the bulk before the wool can be put on the cards, and for each of which two pounds of dirt and grease full freight has to be paid into the bargain. For the last seven or eight years soft fabrics have been in fashion, and goods made of lustre and combing wools, in which England has always predominated, were in small demand, so that wools of this kind declined considerably. Lincoln hogs, which in 1872 commanded 55 cents, were worth, January, 1884, only 19½ cents, and now under larger demand are 21 cents. English exports in woollens, worsteds, and yarns, which in 1872¹ were \$190,000,000 had declined in 1880 to \$100,000,000, and now for 1884 they have risen again to \$120,000,000. While England's trade was declining, Germany and France, who had always had their greatest specialties in soft fabrics, were corresponding gainers. But now we find from both countries complaints of depression, which can be largely referred to this changing demand for worsted and hard wool-fabrics. Now, if countries who have the unlimited survey over all the wool fields from Lincolnshire and Sussex, and from Canada to Australia, and can land their wools at their doors at the same price as the English spinner plus the trifling charge of extra carriage, are subjected to this pressure, how much more must our wool manufacturers be suffering, who by stupid laws are limited to our unserviceable staples, or have to pay frequently as high, if not higher, duties on foreign serviceable wools than the duty on the fabric amounts to.

How our wool tariff obstructs trade and at the same time causes our woollen industries to stagnate while they might thrive and prosper but for the want of foreign wools, has never been more graphically described than by our consul at Sydney, New South Wales, who but gives the views of all those who have studied the situation in which the American woollen industry is placed. I cannot improve the description, than by giving in full his own words on this subject from his letter to the State Department, of Feb. 17, 1885, printed in the March No. of 1885.

¹ The heaviest export year.

"The people here complain that it is not just to expect them to purchase goods and wares from the United States, when wool, the chief product of Australasia, is almost excluded from the United States market on account of the protective duties. I believe, however, if a better knowledge of the character of the wools grown here existed in the United States, that the trade would be much larger than it is.

"The Australasian wools best suited for the United States market are chiefly of light, sound, shafty fleece. These wools are usually produced in the south and southeastern Riverina districts, in this colony, and in the upper Murray district in Victoria. Australasian wools are, as a rule, soft-handling, fine-haired, and silky. These properties are mainly due to climatic influences, although the natural pasturage of the interior has without doubt assisted in developing these characteristics. Some of the high grades of wool grown in the United States compare very favorably with Australasian wools, but, as a rule, the American wools are harsher and are wanting in elasticity and fitting properties.

"The modification of the present duties on Australasian wools would undoubtedly give a great impetus to the commerce of both countries. The United States would then draw more largely than ever on the colonies for all wools suitable for fine and superfine cloths and ladies' dress goods. There is no question about the American manufacturers being able to produce fine cloths and ladies' dress goods of equal quality and finish to those of the most celebrated mills of Europe, and yet on account of the duty on Australasian wool the American merchants are obliged to import the great bulk of these articles from England, France, and Belgium.

"In the event of the reduction of the duties on Australasian wools, or of the admission of that class of wools peculiar to this country, and not grown in the United States, the American mill-owner would soon be in a position not only to undersell in his own market all woollen fabrics of a foreign make, but to compete successfully with other woollen manufacturing countries in the various markets of the world. At the same time the American flock-master would not experience any loss by the change in the tariff, as the wools imported would be of a different quality from those

which he is able to produce. The advantages resulting from such a change would also be very great to Australasia, for there would then be a keener competition than at present for those classes of wool especially adapted to the American markets."

The whole situation is reflected as in a mirror by this graphic description of Consul Griffith.

Under such circumstances it will surprise no one that, in spite of our superior working capacity, our woollen industry is a declining one, while the importations of woollens of foreign manufacture have been constantly on the increase. All the facts related above find prominent corroboration by comparing the woollen manufacture as illustrated by the census exhibit of 1870 with that of 1880.

	1870.	1880.
No. of Establishments	2,891	1,990
Sets of Cards	8,366	5,961
Lbs. Domestic Wool	154,000,000	177,000,000
" Foreign Wool	17,311,000	20,480,000
" Woollen and Worsted Yarn	2,573,000	3,900,000
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	Lbs. 173,884,000	201,380,000
Lbs. Cotton Yarn	3,263,000	3,517,000
" Cotton Warp	1,312,000	17,550,000
" Cotton	17,571,000	24,744,000
" Shoddy	19,372,000	46,583,000
	<hr/>	<hr/>
	Lbs. 41,518,000	92,394,000

The number of establishments and the number of cards has decreased within the decade nearly one third. The material consumed, expressed in total of pounds, has increased, however, almost in the same ratio in which the mentioned decrease of cards and establishments has taken place. In 1870 215,000,000 pounds of materials were consumed in 2,891 establishments, employing 8,366 sets and 80,053 hands; in 1880 294,000,000 pounds of materials in 1,990 establishments, employing 5,961 cards and 86,504 operatives.

This would indicate greater economy in management, and greater efficiency of help, as in the former a capacity of 2,688 pounds, and in the latter year of 3,406 pounds per operative is the result of the year's work. Closely scrutinized, however, we observe very serious decline of the industry. The year was one of great pros-

perity, and still the largely protected industry could not give employment to more than 6,000, or $7\frac{1}{2}$ -per-cent. above the number of hands engaged in 1870. Meanwhile the population had increased fully 30 per cent. Greater decline, however, is noticeable in the quality of goods produced. While in 1870 to 173,000,000 pounds of wool, 42,000,000 pounds of cotton, cotton warp, and shoddy were used—or wool 80 and cotton and shoddy 20; the proportions in 1880 stood: wool 201,000,000 pounds to cotton, shoddy, etc., 93,000,000 pounds,—or wool 68 and cotton, shoddy, etc., 32,—clearly proving that woollen manufacture has been protected unto death, making no possible headway against foreign fabrics, a consequence of the heavy wool burdens bearing down our manufacturers.

Under the high specific duty of ten cents a pound on wool in the grease, on the low foreign wool prices all over the world at the command of foreign manufacturers—a wool duty higher than the whole labor cost amounts to in medium goods,—it would be surprising if our manufacturers could prevent the large importations of foreign fabrics. But with all this burden we are making progress, and some of our heavy woollens and cloakings may fitly be compared to the best productions of foreign makers. What the industry would be with free materials can be imagined from a consideration of our progress under all these obstructions.

CHAPTER V.

SILKS.

THE silk industry of this country is now in a very depressed condition. After years of nursing under the aid of a tariff of 60 per cent., lately reduced to 50 per cent., with free raw materials, we still hear the same complaints of insufficient protection. Raw materials free, a 50-per-cent. tariff wall to keep out the neighbors' boys, and still not happy. Even the 50-per-cent. wall is not considered high enough to protect, because the fellows from the other side have built ladders, called undervaluation, and thus are enabled to throw stones at us and make faces. So goes the story.

Now let us examine this matter fully, and see if there is not a great deal more smoke than fire behind all this outcry.

Undervaluation is at the bottom of the large importations of silk goods, according to the ruling doctrine advanced in explaining the phenomenon of an importation of \$38,000,000 in 1884 (a year of commercial depression) against only \$31,000,000 in 1880, the boom year, and \$23,000,000 as the average from 1875 to 1879 inclusive. The reduction of the duty from 60 to 50 per cent. ad valorem is another reason advanced. The pauper labor of Europe is called in also, to do its usual service in the consular offices as well, as with the clairvoyants who have the case in charge in the home offices. And so long as this explanation is always at hand, what use is there in worrying about new remedies, or about possibly other explanations of the sources of the evil? That not all is going right, we all agree.

But this answer does not suffice, and I aim to show now that the diagnosis of the doctors of the old school is not correct, and I will try and lay bare the plain facts as they appear to me after a careful study of the case. To meet all objectors on the outset, I will say that I fully understand the gravity of the situation, and that it is now a settled fact that foreign nations have formed them-

selves into a mutual organization for attack on our tariff wall, and that, in order to hold our markets, they keep selling us all their goods which we are able to use at cost, or less than cost, if need be. I will not for a moment dispute this protectionist credo—of the sinister designs of foreign powers on this republic and its industries. I will admit that they dump all their goods on our shores at a considerable loss.

In silks, however, they must go a good deal deeper yet, and the losses which they have to sustain to maintain their ground against our silk manufacturers must prove ruinous to them in the end, if the case is at all to be met on these grounds. The true situation is, however, materially different from all these phlegmatic views of indolent self-complacency, fostered by protection. This is the case, and I let the reader judge of the absurdity of all the above referred to assumptions.

Our own silk industry stands on about this proportion of prices of component parts, according to the Census Report of 1880 : Silk and other spinning material, \$16,700,000 ; wages, \$9,146,000 ; profit and expenses, \$6,170,000 ; or, expressed in percentage, $52 \times 29 \times 19$.

Now it is clear that our working methods in the silk industry are different from those employed in Europe. We have it corroborated by good protectionist authority, that of our consuls, that to this very day the home industry is still the ruling mode of production. Power-mills are being introduced gradually, but as yet they have not very materially affected the general state, and cannot be taken into consideration in comparing present and past productive methods as reflecting on the industrial situation.

In America, on the contrary, the power mill is all but universal, and if there are any drawbacks connected with the application of the American methods to silks they are to be looked for in other directions than in that of the greater labor price of the product. Let us take the district of Crefeld as an illustration, where, according to Consul Potter, 90 per cent. of the work is done by hand-loom weavers. In 1881 there were 32,000 weavers employed to work up : Raw silk, 431,552 kos. or 966,675 lbs. ; schappe or spun silk, etc., 215,555 kos. or 482,843 lbs. ; cotton yarn, 940,014 kos. or 2,105,630 lbs.

According to Crefeld price-lists of that time the average cost of these would be :

966,675 lbs. organzine, at \$6.75	\$6,525,056
482,843 lbs. silk schappe, at \$3.65	1,762,377
2,105,630 lbs. cotton yarn, at 50 cents	1,052,815
	<hr/>
	\$9,340,248

This is the cost of the material.

In the manufacture of these \$9,340,248 worth of raw textile material, 25,000,000 marks, or \$6,250,000, is paid for labor, inclusive of dyeing, spooling, shearing, weaving, and finishing.

The 32,000 weavers earned 16,000,000 marks, or \$4,000,000, annually (a prosperous year), or \$125 against \$250, the annual average of earnings in an American mill. The difference, however, startling as it is on the outset against American labor, has quite another face when we show the relative proportions of material and labor in both countries :

	Material.	Labor.	Material in 100.	Labor in 100.
America	\$16,700,000	\$9,146,000	64 $\frac{1}{2}$	35 $\frac{1}{2}$
Crefeld	9,340,248	6,250,000	60	40

We have here again the same exhibit which has been proven in almost every case touched by these papers : American earnings more than twice as high as in Europe, and labor cost considerably below the German or other European cost.

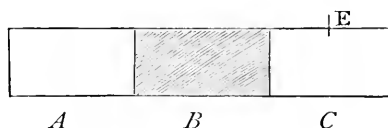
Nor is this the whole case. We are using the silk raw, unspun. Crefeld buys all silk in the organzine and tram ready for the loom. The cost of importation of our silk in the year of comparison was \$4.70 a pound. If we compute the relative cost of material and labor upon our American basis and condition, namely, to spin the silk ourselves and get into shape for our looms, we shall have to add about \$2,000,000 to the Crefeld labor cost, and take it from the cost of material. We should then have for Crefeld :

Material, \$7,300,000 ; labor, \$8,300,000, or material 47 and labor 53 per cent.

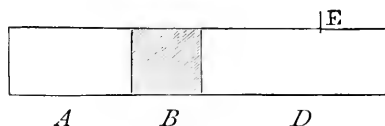
Now, I admit that in a branch like silk, which contains so many kinds of goods, and where Crefeld manufactures so much in half-

silk stuffs, or goods with cotton backs, there is no adequate field of comparison. But there can be no doubt that the labor cost of goods manufactured there is as high as stated, and that we have to pay for it as well as for the materials used when we import them. They may sell them to us, at cost, for dark and hidden reasons of their own, but the mere outlays for material and labor have to be refunded to the foreign manufacturer. Now, see how this account comes out. I will show it by means of a diagram :

1. Crefeld cost landed here and duty paid.



2. Cost of American silk.



In figure 1, *A* is cost of material, expressed by 47; *B* is cost of labor, expressed by 53; and *C* is the duty of fifty per cent. paid on landing in New York.

In figure 2, *A* is cost of a like amount of material (being free in both countries), and *B* is the American labor cost as expressed above, $64\frac{1}{2} \times 35\frac{1}{2}$, and *D* is the blank space where to fill in all possible "ifs" that can be raised against this mode of investigation. Undervaluation would only affect *C* in 1, as *A* and *B* have to be remitted in full to the other side, and even if goods would pass the custom-house at one half the price of manufacture (the usual claim of the "experts" is one of a 25 per cent. undervaluation only), the line would be reached midway in *C*, which would still leave enough of a margin for the American manufacturer equal to the whole cost of his material and wages account. The effect of a 50-per-cent. undervaluation I express by *E*, equivalent to a full protection of 25 per cent. I will not enter here into a discussion of the relative advantages of the two labor systems in the silk industries. Very material differences do exist, but the effect upon

the cost of production is certainly in favor of the American method so far as the mere money outlay for wages is concerned in the process of turning a given amount of raw material of like nature into cloth. Nor is it very material for the purpose of this inquiry to answer the objection which could be raised against the method of arriving at a fair comparison, that of not having the same products under review. It is not and cannot be a matter of controversy, however, that Crefeld's goods, which we find so difficult a match to meet under a 50-per-cent. protection, and as for that, Lyons and Zurich goods as well, are composed on the whole of fully 53 cents' worth of labor for every 47 cents' worth of textile matter we import in manufactured silks, and that, having the raw material, silk, at the same cost as the foreigner, we ought to be able to compete under a much lower rate of duty than our present one.

But to those who are not satisfied with this wholesale mode of comparison, I will give a more specific example of the labor price ruling in both countries, as paid by the piece.

I have before me the rate of payment to Crefeld hand-loom weavers, paid for weaving one metre of taffetas 25 inches wide (of 4 threads to the centimetre and 32 fine). This price list is from a committee of nine Crefeld masters, and is undoubtedly as reliable as any list can be :

In 1867 2.50 marks or 60 cents ; in the very prosperous year 1872, 2.75 marks or 66 cents ; in 1877 a reduction of 30 per cent. below the rate of 1867, down to 1.75 marks or 42 cents, had taken place. From 1879 to 1881 wages rose again to nearly the old rates, but now, under the depression which is beginning to be very seriously felt, and is assuming more and more calamitous aspects, the rate of pay may be even below that paid in 1877, when 42 cents the metre of this 25-inch taffetas, equal to about 39 cents the yard, was paid. For the same count is paid in American mills at this period not more than 20 to 25 cents a yard. This is one of the finest grades, while in lower grades the prices for weaving on power-looms run down to 4 cents a yard.

Though spooling and shearing are paid separately in Crefeld, as well as here, yet there are a number of auxiliary operations which are performed in the house-industry by the weaver, while in

American mills they are an extra charge. In the house-industries they are performed by the weaver's children in his narrow house, or by children hired for the purpose at a slight weekly outlay.

Making all these allowances, and adding them on to the labor cost of American silk weaving, we do not yet come up to the price paid to a silk weaver in Crefeld at times of depression even.¹

The mere labor cost in the finished product of a pound of silk, spun, dyed, woven, and finished into pieces of goods of the same purity, will cost less in the United States than in Crefeld. The work account of a Crefeld "manufacturer" stops when the piece is delivered to him by the finisher, ready for shipment. That of the American manufacturer, however, is increased by the extra expense account. The Crefeld "manufacturer" has no fixed charges, such as mill buildings, machinery, fuel, foremen, and superintendents, except the necessary help for the delivery of silks and examination of the returned goods in the various stages. All these charges the American has to add to his labor account. But the wear and tear of machinery, the interest charge, superintending, and so forth, can be expressed by ten per cent. of the whole cost, and if added to the labor price, would only extend the line parallel to that of Crefeld labor in our diagram.

Under conditions of depression referred to, a Crefeld weaver would consider 8 to 10 marks for his weekly earnings a very satisfactory result, while under stated prices and full employment American weavers make weekly wages from \$8 to \$10. It is clear from this that the pauper-labor theory is not sufficient to explain the price differences which undeniably exist. Of like standing would be the undervaluation theory as a means of explaining these discrepancies. That they do exist is a matter of record in our custom-houses. We collect annually round \$20,000,000 on round \$40,000,000 of imported silk goods, an unfailing proof that our manufacturers cannot compete in a great variety of fabrics.

What seems more pertinent causes have to be looked for in another direction, and of these I shall speak more at length in the following pages.

¹ See Appendix.

CHAPTER VI.

THE LOADING AND DYEING OF SILKS.

FROM Great Britain we hear a like wail of distress in the silk industry. The pauper-labor cry is used as much there as here. Macclesfield and Spitalfields, as well as Coventry, have never been renowned for paying very high wages to their poor silk weavers, not for the last twenty-five years at least. Besides, more of the silk work is done on power-loom than in Germany, or France either. The rate of wages is a lower one than in most other English industries—cottons and woollens. With these advantages, though not protected by any tariff, the British silk industry ought to hold its own at least. But instead of this, the industry is rapidly declining—I might say, fast dying out. The net imports of raw silk (deducting exports from imports) were on an average :

	<i>Lbs.</i>
For 1861-65, annually	5,500,000
“ 1871-75, “	3,700,000
“ 1879-83, “	2,500,000

The decline in the number of operators employed in the industry is greater yet. Improved productive methods have made it possible to do with considerably less help for the same amount of product than in the high tide of prosperity.

The imports of foreign silk manufactures have increased in the ratio in which the imports of raw silk have declined. They were :

For 1865	£7,260,000
“ 1871-75	averaged, 10,400,000
“ 1879-83	“ 12,000,000

The British Government, alive to the interests of commerce and manufacture, has instituted an inquiry through the Royal Commissioners on Technical Instruction. The third volume of their report has been published recently, containing a very valuable paper by Mr. Thomas Wardle, of Leek, on the condition of the British silk industry. As the prominent features of our own

situation are reflected by the picture drawn in Mr. Wardle's paper, I will introduce his statement, so far as it bears on the subject.

Mr. Wardle lays the difference, where it properly ought to be put, upon the weighting of silks, as also the technical superiority of foreign dyers and finishers. Silk, as a fibre, is largely hygroscopic—that is to say, it absorbs moisture, atmospheric moisture, to a very large degree. Up to thirty per cent. of its weight can be absorbed without showing the moisture. As early as 1759 a silk-drying establishment was organized in Turin, so as to give a guaranty that the silk buyer does not spend his money for water instead of silk. Crefeld and Elberfeld organized in 1844 a joint-stock company, which was placed under public control, and whose officers are under oath to determine and declare the real condition and weight of each bale of silk, determined after fully drying sample skeins taken from the bale, and adding an allowance of eleven per cent. as the admissible degree of moisture of honest commercial silk. Similar establishments are to be found now in every large silk centre, guaranteeing the net weight of silk. Now, considering this to be the nature of silk in its pure, unadulterated, natural condition, let us see how man improves the gift of nature, to make a little go a great ways, and here I let Mr. Wardle have the floor :

“I do not wish to be misunderstood as an apologist, still less an advocate, for this lamentable weighting of silk, but it will be my duty to describe things as they have been, as they are, and as they are sure to continue, until commercial procedure is reformed.

“There has been a great deal of nonsense talked about this question, and it is quite time that it was put upon its true basis, and facts and uses explained and left to speak for themselves.

“For the English dyers I must say this : They are not fraudulent ; they, from the necessity of their vocation, declare their dyes and their weighting upon each invoice, and they, in order to obtain a livelihood, are bound to do the bidding of the manufacturers. Whatever fraud there is, lies in selling the combined product as silk.

“With regard to the weighting of silk in England in past and present times, I may say that I, as a dyer, never knew the time when silks were not weighted in some degree. This is but the

experience of every English dyer at least a century past. The difference between English and Continental weighting is in degree only, English silks having always been weighted to a much less extent than foreign ones.

"It is often said that English goods wear well, because they are always of pure dye, and that French goods wear badly, because they are of weighted dye. This is not wholly the truth, and explanation is needed.

"As is well known, silk contains a gum or varnish to the extent of about one fourth of its weight. This has to be discharged with boiling-soap solution for silk threads intended for the warp of a black-dyed fabric. Each pound is thus reduced in weight to twelve ounces. To this residue of twelve ounces it has been usual, from time immemorial, with occasional exceptions, to add from one ounce to four ounces of weighting matter, to raise it up again as near to its original weight as has been found desirable by the manufacturer in shaping the price and quality of his goods. The woof, or shute, being for the most part hidden or covered by the warp threads, did not of necessity require to be lustrous, and so another method of dyeing was and is resorted to. The silk is dyed upon the gum in the unboiled-off state—*i. e.*, the gum is not discharged; silk so dyed absorbs weighting matter easily, and the usual proportion was from four ounces to eight ounces of addition, thus making each pound of silk return from the dyer weighing twenty ounces to twenty-four ounces, but in some cases, as for narrow goods, very much heavier. Such dyes are technically known as *souples*—*i. e.*, the weighting matter added being for the most part in combination with the external gum or 'silk gelatine,' and not with the filbroine or silk proper.

"Now, it is a fact beyond dispute that black-dyed silk, without weighting matter, is not so permanent in color as when weighting matter is used, and the reason is easily explained. A good black on silk, in fact the best black, is formed, as in ink, by the union of iron salt and tannic acid. Tannic acid has the property of uniting itself with the filbroine or silk fibre and forming part of its substance, and by so joining itself adds its weight to that of the silk. Black dyes without tannin are all more or less unstable. A good fast black, unweighted and proof against light, acids, and alkalies,

has yet to be discovered. Therefore a pure and unweighted black cannot be recommended for any fabric where permanence of color or durability of dye is wanted.

"The process of weighting has been so handled and developed that dyers in both France and Germany have no difficulty now, by the use of tin, etc., in making their maximum weights up to 40 ounces per pound on boiled-off silk, to 120 ounces per pound in souples, and even to 150 ounces per pound on spun silk.

"I have a piece of so-called black silk ribbon of French dye, the warp of which is weighted to 24 ounces per pound, that is, the net 12 ounces of silk made into 24 ounces, and the shute weighted to the frightful extent of 100 ounces per pound, that is, one pound of silk made into 100 ounces. This is scandalous, and no French silks should be allowed to be imported without the loading being declared or the adulteration heavily taxed. It is high time this was done, and its effect would be to give the English manufacturers a chance.

"The skill of the French in weighting their silks has been one of the chief causes of the decline of the English silk industry. They are at present producing weighted blacks vastly superior in appearance to the old-fashioned English dyes, and yet considerably more than quadrupled in weight to the degree of loading.

"I think this suggestion cannot too stringently be acted upon. It is necessary the public should know what it is they are buying, and this has become impossible as matters now stand in silk goods, because the art of deception has become a corollary with the scientific skill and development of weighting.

"If the weighting matter were as apparent in the goods as cotton or wool when mixed with silk, the articles would declare themselves, and the reasons for the proportionate cheapness would be at once apparent ; but the effort has been so successfully made to incorporate with the silk such excessive proportions of loading, that the weighting matter is no longer distinguishable from the silk itself, inasmuch as, as I have already said, it appears to exist not merely in contrast with, but in actual combination with the silk fibre, and to partake of all the qualities which silk possesses, except that of strength, for I should observe that the strength of the silk fibre decreases in proportion to the augmentation of

weighting matter. Even the removal of the natural gum, or, as the French more properly term it, *grès*, of silk by boiling off decreases its strength, and to add to the boiled-off fibre any adventitious matter further augments this loss of strength.

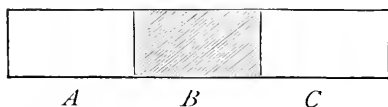
"The wife of a friend of mine lately bought a dress in London—a black silk faille, of French manufacture—for which she was charged 20s. per yard. In a month the fabric was completely disorganized or cut between sleeve and bodice, although it had only been worn a few times. This was simple robbery, for silk absolutely unweighted would not have cost half as much. I examined the warp and weft of this fabric, and found the former to be weighted to 20 ounces per pound, and the latter to 32 ounces per pound."

I have made so full an extract from Mr. Wardle's statement, as it gives so impressive an explanation of the causes which operate against the successful competition of English as well as American manufacturers with French silks. To the bad-wearing qualities of many foreign black silks, the female member of every household who owns a black-silk dress can testify. The heaviest, apparently best qualities frequently break the soonest. American silks are known to wear better. Nor is this the character of broad goods alone. When black-silk fringes were used in ornamentation, American fringes were fully twice as high in price as German fringes of the same style and pattern. But for every thing that required solidity, and where the price warranted their application, American fringes were given the preference. Indeed, they were the only ones that could be used. So well was this known to buyers of ladies' cloaks that their first object of examination was the fringe. The foreign fringe snapped off, or rather fell off like singed paper in response to any not over-rough trial of its strength, while the threads of an American fringe could no more be broken than if they had been linen twist of the same thickness.

Colored silks are not much weighted, but yet the weighting can be practised to nearly 100 per cent. of the boiled-off silk. The greatest difficulty is in black silks. Plain colored silks are hardly any more imported, American silks having driven them from the market. With such an immense stretch as is offered in the ab-

sorbing quality of silk, it is easy to see how much more the pound of pure silk can be made to yield in yards or ounces of stuff goods than the shining, hypocritical surface tells the buyer. The difficulty and even impossibility of detection to any thing near the full extent of the adulteration is admitted. The manipulation, dyeing, loading, and finishing is practised as a perfect science abroad, to which not our most skilled adepts have been able to aspire. It will be readily understood from what has been said heretofore, that it is not a difficult matter to load silks twice as high and preserve the appearance, as our foreign competitors, with more skilful handling, are practically able to do. Under such treatment of silks our diagram of the relative cost of silk in Crefeld and America will make a different showing.

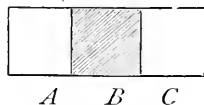
(1) Crefeld silk landed here and duty paid, if silk is of condition and quality of American silk.



(2) Cost of American silk goods.



(3) Crefeld silk duty paid, if silk is reduced to one half the American purity, and under the same proportions of material and labor as in No. 1.



[A, cost of material ; B, labor ; C, duty.]

In 3, the relationship of material (A) and labor cost (B) is the same, 47 and 53, as in the diagram given on a previous page on silks ; but the value of the material does not come to more than one half of our own. The cheaper silk matter is made to show up so skilfully that these silks, not one half as valuable, are frequently

preferred to our own on account of their finish, greater softness, and better color.

And, as to this, the words of Mr. Wardle are as appropriate in our case as in that of Great Britain :

“ In looking to the future we must admit that the manufacturer will have to learn his trade, from the rudiments to the highest intricacies of his loom, and must be, like the French manufacturer, skilled in the manipulation of his material, and not a mere capitalist, but a teacher of his work-people ; the dyer must be a man of liberal education, well grounded in the history and practice of his art, a well-trained chemist, and able to personally conduct all and any of the complicated processes for which he is responsible, and which he must thoroughly understand. The finisher, too, must throw his antiquated notions aside with his antiquated machinery, and by knowledge of mechanics and chemistry help to turn out the dyed and woven goods in that perfection of style and pleasing finish which distinguishes all Continental silks.”

This may not so fully apply to us so far as machinery is concerned, but who would say that the other strictures do not suit our case ? The progress we have made from recent beginnings is indeed wonderful. No one who has examined American silk goods, those especially of the better medium grades, can fail to recognize their value.

No one who has examined the workings and organization of an American silk mill can fail to perceive what the results would be, if in other price-making factors than those controlled by the application of machinery to the art, we were equals of our foreign competitors. One cannot fail to discover, faultless as the work of the weaver may appear, that a great deal has to be brought yet into the art to give our silks, in most instances, the softness, the mellowness, which make French fabrics, perhaps of inferior value, so tempting to the touch and the eye of the buyer. To make an inferior fabric look and feel equal to one of higher cost is indeed an art in which only great skill and experience will succeed. Not that we do not attempt to make cheap goods, in silks as well as in other textiles, but they show more the imprint of incapacity than where a full supply of good and honest material meets the workman half-way in his attempt to produce a sightly fabric.

Success cannot be reached except through workmen skilled and practised, and through masters understanding all the details of their lines. To this we must aspire through close study of all the subdivisions of the work, and not be content with the aid of superintendents, imported to do what ought to be the work of the owner of the establishment. The great textile industries of Europe are all the time introducing not only new chemical processes, but also new spinning materials into their fabrics. The Ramie fibre plays a not unimportant factor in silk manufacture. And, indeed, whoever has seen the fine silky threads in their combed condition cannot deny that it is a subject worth studying.

The *Dry Goods Bulletin*, of this city, time and again for several years now, has called the attention of manufacturers to the importance into which this fibre has of late grown in Europe.

Only recently I had an opportunity to examine a sample collection of fabrics made of Ramie fibre, sent on exhibition from Europe. Materials of pure Ramie had the brilliancy of silk, and half-and-half fabrics were difficult to detect from all silks.

A chemical analysis of a piece of black silk of foreign origin made by Mr. John Dean, of Brooklyn, an expert of silks, revealed the following items as component parts of "original silk." I give his own description of his investigation as published in the *Dry Goods Bulletin*, after having satisfied myself of the accuracy of his tests.

"Chemistry and the microscope show up what so-called silks are composed of. With them no lacquard sham can pass for the genuine article.

"Having obtained samples of black silks from various places of business in your city and this, and having put them to these unerring tests, with this communication you will receive the results.

"Exhibit marked No. 1 is a sample of black gros-grain, \$1.50 per yard, said to be all pure silk, heavy and rich-looking, and has every appearance that it would stand any amount of hard wear and so give the wearer satisfaction. Chemistry shows it to be adulterated 700 (seven hundred) per cent., containing only sufficient silk to make the two surfaces; while the microscope reveals the fact that the woof is not silk at all, but ramie.

"No. 2 is the ramie fabric with silk extracted in one part.

"No. 3. is the same again after having its various adulterations extracted. You will kindly notice that the little silk in the warp is a different color to the woof ramie.

"No. 4 is still the same reduced to a carbon.

"As near as I can judge, this imported fabric is composed of :

Silk fibre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	12.50
Ramie	.	.	.	.	.	.	.	.	.	.	.	.	.	.	60.00
Oxide of iron	.	.	.	.	.	.	.	.	.	.	.	.	.	.	10.00
Logwood, oil, and other matter	.	.	.	.	.	.	.	.	.	.	.	.	.	.	17.50
Total	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100.00

"Exhibits marked 5, 6, 7, and 8 have the adulteration extract extracted, which shows how little silk is used to make a heavy fabric.

"No. 9 is strictly pure in warp, but woof or weft is heavily loaded.

"Exhibit No. 10 is a sample of which America can justly feel proud ; it is not only home-made, but strictly pure in warp and weft ; the dye used, just sufficient (12 per cent.) to make it black, was the very best.

"Exhibit marked 10 A had the same chemical used upon it as exhibit marked 2 ; you 'll notice the silk only is destroyed in this case (10 A). 'Had much more been used,' to use an Irish expression, 'there would have been nothing left but the hole to send you.'

"Exhibits marked 10 B and 10 C are still the same fabrics, simple tests only having been applied.

"Exhibit 11 is the carbon of No. 10 (please notice contrast between this and exhibit 4).

"Exhibit 12, sample of satin with its silk face removed.

"Now, sir, how long could such a fabric as No. 2 wear ? No wonder that good-souled old lady, Mrs. Public, sometimes gets in a tantrum, and gives way to anger, and says silk don't wear, and wonders *why*.

"The fact is, Mr. Editor, she is too fond of a bargain when silk is concerned. She demands and insists upon having a dollar for fifty cents. I know not what manufacturers of other textile fabrics can do, but if it is tried on silk manufacturers the old lady will *get left* every time."

Mr. Dean lays bare the root of the whole evil in this latter remark ; to the discussion of which point we shall devote the following chapter.

But applying the philosophy of this investigation to our case, it will appear that it would naturally lead to better results if our manufacturers went to work to obtain all the technical instruction necessary to their art, such as the nature and treatment of fibres, colors, and finishing processes, than to trust to outside aid.

The attention which the governments of Germany, France, and England are giving to these matters, the technical schools which are being established, the scientific training which is offered to all who prepare for the competitive contest of nations, show that we must not trust to the ægis of our goddess too blindly if we wish to maintain our grounds.

CHAPTER VII.

ADULTERATION OF FABRICS LARGELY DUE TO HIGH TARIFF
TAXATION—GREAT DEMAND IN THE UNITED STATES FOR
CHEAP FABRICS—A CONSEQUENCE OF THE GREAT CON-
SUMING POWER OF THE MASSES.

IT will hardly do to paint a gloriole of superior morality around the heads of our manufacturers, as we find done frequently in our public prints, when explaining the greater purity of American silks. The silk manufacturer is not made of different stuff than the woollen manufacturer. It has been shown in a previous chapter "on woollens," from the aggregate of our product, how we have advanced in a brief decade in the practice of adulteration of materials, the purity of which is of far greater importance to the millions for health and comfort than that of any other fabric. Yet adulteration is practised to an extent which, to my knowledge, no other country has yet shown, in its exported woollens at least. What is proven in the abstract by statistical comparison is fully known in the concrete by actual experience in life to buyers of dry goods. With the reduction in price of known standard woollen fabrics a diminution in the quality and fineness of the wool or the closeness of the heft has gone hand in hand to a large extent. Frequently in mixed fabrics we observe a gradual reduction of the wool percentage and an increase of shoddy and cotton, until finally little is left to vouchsafe the application of the name of woollen to an article shorn of all but its name. Some exceptions of brands, whose manufacturers rigidly adhere to the standard quality which built up the great reputation of their staple, show by the great success amid the general decline that the public is not slow to detect any hide-and-seek game. I will admit that the high price of our wools, compared to European prices, and the keen competition for our limited markets, force our woollen manufacturers to such prac-

tices ; but, if any thing, it proves that like conditions create like effects, whether here or abroad. What our wool duties force upon our wool manufacturers our silk duties largely force upon foreign silk manufacturers—adulteration to cheapen their fabrics in order to beat our high tariff. Our cotton goods show that where there is an abundance of cheap materials at hand our manufacturers prefer at least to produce pure fabrics, and excel herein their foreign competitors. It would, though, be futile to say that the art of filling cottons with clay and sizing is not practised by our industries in the cheaper imitations of better grades of their American competitors. It is, however, clear to all judges that while we excel in pure, unadulterated American cotton goods all nations, in cheap fabrics, where sizing is intended to give body to the material, we are woefully behind. This art is nowhere so fully understood as in England, and nowhere so poorly practised as in the United States.¹

It is easier to manufacture pure, unadulterated fabrics than where mixing of uncongenial materials would at once show the

¹ England has built up an immense export trade more through the art of the finisher and other means of giving cheap fabrics a slightly appearance than by any other method. There is no secret made of this fact. If the barbarians of Asia and South America are eager buyers of thin fabrics, made heavy by the admixture of clay, barytum, and starch, beautified by the decking out of the pieces with chromos and gold-tinsel bands, John Bull is willing enough to let them have the goods just as they want them. He knows that the preacher would be out of place in the dry-goods trade. He spends none of his valuable time in trying to convince his customers that the pure unadulterated fabric, such as we make it, is really the cheaper one. He studies their tastes and desires, which are mostly based on customs, grown up with the country or on climatic influences, and meets their demands and tastes. He aspires to nothing higher. Starting from these premises it is, however, somewhat mystifying to observe the "I-am-holier-than-thou" mien of Mr. Wardle, when he declaims against the dishonest silk manufacturers of the Continent. What they do in silks, the English have been practising for a half a century in cottons. If the English are not skilful enough to adulterate silks to the extent the Continentals are practising it, and give the goods the same appearance, the Continentals have never been able to do the thing in cottons as gracefully as the English do the trick. The latter, however, have this in their favor, that they sell the stuff for what it is worth and no more, as can be learned from the average prices of exported bleached cottons. (But this is also due, not to a greater degree of morality inherent in our cousins beyond the sea, but to the fact that the buyer of cotton

attempted substitution, unless covered by the most skilful manipulation. A perfect dyeing and finishing of an inferior article often necessitates more skill and outlay than fabrics of superior quality require. This is a far more prominent reason, why we attempt less to adulterate, than principles of higher morality.

I can say this the more freely, without fearing to touch any sensibility, as I do not at all share in the common outcry raised against so-called adulteration or cheapening of fabrics by the admixture of other than the genuine material.

It is wrong to make shoddy cloth and sell it for all wool, if such is possible, which I doubt. It is wrong to make starched cotton cloth and sell it for pure cotton, if such is possible, which I doubt. It is worse to make loaded and adulterated silk and sell it as pure silk, because the adulteration is more difficult to detect and deceit

goods knows to discriminate between cotton and clay. He seems to be well posted. (An easy matter in cottons but rather difficult in silks.)

Following is a list taken from the Board of Trade Reports of 1884 giving

EXPORTS OF BLEACHED COTTON, VALUE AND PRICES.

Countries.	Yards.	£.	Price per yard in American cents.
United States	53,000,000	1,468,000	13.25
France	50,589,000	1,023,000	9.80
Germany	48,757,000	823,000	8.25
Belgium and Holland	107,000,000	1,580,000	7.25
All other European States incl. Turkey	503,000,000	6,164,000	6
Egypt	124,000,000	1,236,000	4.84
Central and South Am. States and W. India	642,000,000	7,848,000	4.88
China and Japan	440,000,000	4,700,000	5.17
British India	1,792,000,000	17,650,000	4.75

A trade which has to depend on the masses of the people, as in cotton goods, has to adapt itself to the purchasing powers of those for whom it caters. The clear understanding of this plain principle seems to be at the bottom of England's success. There is no room for sentiment in the brain of the British trader.

There is little doubt that the want of adaptation to the customs, habits, and necessities of foreign nations has been one of the main causes of backwardness of extending our trade in cotton goods beyond the 10 or 12 millions between which points it has been oscillating during the last five years. It had been the same figure in 1860. The British exports of cotton goods within this time varied between the sums of 350 and 350 million dollars.

is easier practised. But even in this branch we begin to understand the case, and the public has the remedy of rejection at hand. The prices at which these adulterations and imitations are sold in the market show clearly that the scrutinizing price-regulator is actively at work in giving the true level to fraud and deceit. But aside from the bad feature of selling an inferior article at the high price of the genuine article, which, however, cannot be practised for a very long period, or of the equally bad feature of forcing inferior woollens or shoddy goods upon our customers at prices of genuine pure woollens (largely due to the government tax on genuine wool), this adulteration of fabrics is nothing more than a recognition of the commercial situation created by the democratic organization of our civilization. All our industries are bent on gaining the largest possible markets among the millions. Few of our capitalists, manufacturers, or merchants would care to embark in any enterprise where they could not feel sure that they could gain the patronage, the custom of the great masses of the people, the millions of bread-winners with small incomes. They recognize the comparatively small value of the trade of the few wealthy who use the finer fabrics. They know the great purchasing power of the collective incomes of the poorer classes. No nation can show so great a proportion of its people engaged in useful occupations. No nation can show so great a proportion of its laboring people earning sums of money which in Europe would be considered fair incomes of the middle classes. This, of course, creates great purchasing power, which is freely exercised. There is a spirit of "I-am-as-good-as-you" about, which happily cannot be crushed even by momentary depression. Even if silks are high, they are bought nevertheless. On a Sunday our working girls are as well dressed as anybody, and if a 50-per-cent. tariff makes silks too costly in the pure state, they have to be satisfied with the substitute. This cheapening of fabrics is simply the attempt to meet the capacity of the slender purses of our millions. The nearest remedy against adulteration would be an abolition of duties, which would bring the pure article within the reach of the less pecunious classes who share in the annual consumption of a hundred millions of silk goods—American value, adding duties paid the government. High duties upon the material are a pre-

mium upon adulteration at home. High duties upon fabrics are a premium upon adulteration abroad. We cannot escape from this result of our fiscal system. We cannot eat our pudding and have it too. Our people love to be well dressed.

If our government removes from their reach the genuine thing, which their love of the beautiful would prefer to have, why, they have to take the nearest thing they can get, the imitation.

The cheapening of fabrics, through any new process or means of reducing the price, at once increases the consumption in a most unexpected manner. Cotton embroideries, made in Switzerland and Saxony on so-called Swiss machines, have been imported formerly in limited quantities. The great profits made originally by the manufacturers, however, caused so many machines to be built, the competition became so keen, that where 38 centimes was the average for a hundred stitches in St. Gall for 1875, the same work is done now for 25 c., and in dull times as low as 20 c. To meet the demand for cheap and showy trimmings, necessarily arising in a country of a social organization like ours, some American houses in response thereto have opened branches there, and have their embroideries made to suit their trade. They use cheaper materials, copy or have designed rich patterns used in high-cost goods, and by reducing the number of stitches employed in the more costly work obtain effects nearly similar to that, but at considerably less price, and are enabled thereby to outsell their competitors. They have built up an immense trade within the last years, selling cheap goods at moderate prices and moderate profits. The outcry of fraud had also been raised against these importers,—the easiest explanation given to new facts, not studied usually by those in possession of an old-established trade. But to-morrow is the deadly foe of to-day, as to-day is of yesterday. Though we all suffer decline and death in this truism, yet it is the cradle of all growth and progress.

Competitive forces are so keen and active to-day that they demolish in the briefest time the most gigantic structures of wealth and trading power. To fight and obstruct them is like the fight of the elephant and the locomotive.

In the case cited above the United States Treasury Department had come to the aid of the old-established importing houses on

whom the new system has had the most injurious effect. The traditional policy of the United States Government for the last twenty-five years has been to increase prices by legislation and executive action. It cannot surprise, therefore, that superficial observers should only see fraud and undervaluation in any introduction of goods, at prices cheaper than the official mind can explain, into the trade centres of this country. My most careful inquiry into the practices of the importers of embroideries has not enabled me to detect more than this perfectly legitimate and natural design of competitive forces.

Now, this cheapening of an article of luxury has been the cause that the importations of embroideries have more than doubled in value, and perhaps quadrupled in bulk, within the last six or eight years—all clearly in response to the great consumptive capacity of the poorer classes of our population.

The great power of absorption of textile fabrics by the American people, taken per capita, can best be shown by comparing Germany's home consumption of textile fabrics with those of America. I have to arrive at the result in a roundabout way. Germany has no census enumeration of manufacturing industries as we have it. In taking the value of raw material as the basis of calculation, we can, however, get at the relative total values of production. I propose to take the English export value of the material and add 100 per cent. as the cost of manufacture. This is to cover the labor cost, general manufacturing expense, rent, taxes, interest, and manufacturer's profit. It is somewhat in excess of our own manufacturing cost of the aggregate of our textile industries, which stand as follows :¹

	Material.	Labor.	Product.
Carpets	\$19,000,000	\$6,800,000	\$31,800,000
Cotton goods	113,700,000	45,600,000	211,000,000
Mixed textiles	37,200,000	13,300,000	66,200,000
Silk goods	22,400,000	9,100,000	41,000,000
Wool hats, woollens, and worsteds	127,500,000	33,400,000	203,000,000
Cordage and twine	9,300,000	1,500,000	12,500,000
Totals	\$329,100,000	\$109,700,000	\$565,500,000

¹ Or, addition to cost of material, 72 per cent.

The difference between this and the assumed percentage addition of 100 will cover part of distributing expense not contained in the above. Both countries being treated alike, the result will not be affected very materially.

a.—AMERICAN CONSUMPTION OF TEXTILES.

I.—Manufacturing, 1880 :

Cotton, 961,000,000 pounds, at 14 c.	\$134,540,000
Flax, hemp, sisal, jute, etc., 100,000,000 pounds, at 8 c.	8,000,000
Silk, raw, 2,900,000 pounds, at \$4.75	13,775,000
Clothing wool, 260,000,000 (¹ 210,000,000 pounds), at 25 c.	52,500,000
Carpet wools, 36,000,000 pounds, at 15 c.	5,400,000
Total	<u>\$214,215,000</u>

I count no other mill supplies, dye-stuffs, etc., but simply textile raw materials in the above. These other items amount to a total of \$42,000,000, and would bring our material cost (all of which is first cost, as I have eliminated all duplications) equal to foreign cost of \$256,000,000, or :

Manufactured value of	\$512,000,000
From this we have to deduct exports :	
Cotton goods, cordage, etc., say	<u>14,000,000</u>
Leaving	\$498,000,000
We have to add now foreign imports :	
Cotton manufactures	\$30,000,000
Flax, hemp, jute, etc.	25,500,000
Silk manufactures	32,300,000
Woollen manufactures	<u>34,000,000</u>
Total	<u>\$121,800,000</u>
Or, all textiles, home- and foreign-made	\$619,800,000

This represents first cost, and does not include distributive, fiscal, or other expense than that included in manufacturing cost. Per capita of population it represents \$620 divided by 50, equals \$12.40 ; or, for each group of three, according to the census, it equals \$37.20.

¹ American wools, as rendered to mills, shrinking more than German wools valued at 25 c., in our account will have to be reduced 20 per cent. to bring them at a par with German wools. The census figures for all wools consumed in our mills, both foreign and domestic, are taken as \$84,000,000. The difference of \$32,000,000 may fairly be taken as expressing the difference in the cost between foreign and American manufacturers.

Now let us see how Germany is situated :

b.—GERMANY'S CONSUMPTION OF TEXTILES.

I.—Manufacturing, 1880 :

Cotton, 300,000,000 lbs., at 14c.	\$42,000,000
Flax, hemp, jute, etc., 247,000,000 lbs., at 8c.	19,760,000
Silk, 5,100,000 lbs., at \$4.75	24,225,000
Wool, 190,000,000 lbs., at 25c.	47,500,000

Spinning materials	\$133,485,000
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To this we have to add 20 per cent. for mill supplies, etc., as in <i>a</i> , or	26,000,000
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II.—Excess of imports of yarns over exports, according to the Statistical Year-Book of the German Empire, 1881, 140,000,000 marks, or 34,000,000

\$193,485,000

As we import all our spinning materials raw, or almost wholly so, while Germany uses large quantities of foreign yarns, it will be seen that the addition of 100 per cent. to represent the cost of manufacture is excessive in this instance. Intending, however, to throw all the benefits of the doubt to the German side, as I wish to show our superiority as consumers of textiles, I will not go into closer scrutiny of this item. We have now, therefore, a German textile production of round \$380,000,000, against \$512,000,000 of ours, on the basis of materials of an equality of cost, and not on the basis of taxed materials and fabrics, raising American valuation. But while we have to draw on foreign supply to the extent of 25 per cent. of our total product to fill our home demand, Germany has a large part of her smaller product over for export.

Production	\$380,000,000
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III.—Excess of German exports over imports of textile fabrics

—Statistical Year-Book, 1881 :

Exports marks	675,000,000
Imports	104,000,000

571,000,000

Clothing, millinery, etc., amounting in excess of imports to 95,000,000. As about one third of this sum expresses labor and profits, etc., engaged in converting the material, we have to deduct, say

35,000,000

And have left, marks	536,000,000
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To deduct as excess of exports, or	127,000,000
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Which leaves for consumption at home	\$253,000,000
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The population at 45,000,000 is \$253 divided by 45 equals \$5.62 per capita, which per group of 3 gives \$16.86 for Germany, against \$37.20 for America.¹ In other words, our higher standard of living, and consequent greater productiveness, enables our working people to consume by nearly two and a half times more of textiles than people of a lower standard of living and lower productiveness. A cardinal point in this discussion is that great productiveness finds its natural equation in the greater consuming power of the people. Great consuming power of the masses naturally leads to great productive power. Both supplement each other.

If the consuming power of the American were not greater than that of the German people, then the home product and imports of textiles of 1880 would be sufficient to cover a nation of 110,000,000 people instead of 50,000,000.

$$\frac{50,000,000 \times 1,240}{562} = 110,320,000.$$

If the German people had the consuming capacity of the American people, then Germany could find a market at home for \$558,000,000 of dry goods, instead of \$253,000,000, her present consumption.

$$\frac{253,000,000 \times 1,240}{562} = 558,220,000$$

The wealthy and well-to-do classes of all countries stand on about an equality as regards the consumption of dry goods. The

¹ This is the first value. The distributive value, of course, is considerably higher. The annual outlay of the consumer for dry goods would be, according to our method adopted in chapter XII., as follows in America :

As above in A	\$620,000,000
Duty on imported dry goods and textile fibres	67,000,000
Increased cost of domestic raw material on acct. of protection	35,000,000
Increased cost on this raw material and other increase on acct. of protection	\$ 50,000,000
And 15 % for wholesaler's gross profit	115,000,000
" 20 % " retailer's " "	178,000,000

And we have a gross value of \$1,065,000,000
as the annual outlay of our consuming millions for dry goods. Boots and shoes, and the additional expense for converting into clothing either by manufacturers, seamstress, or tailor, is not included in this.

great divergence in our two examples is mainly due to the greater purchasing power of our working people. If there were no other proof, these tables alone would be sufficient to prove that the well-being of the working classes is the only sure fundament of a nation's lasting and solid prosperity. To the enhancement of this all intellectual forces must apply themselves. Raise their standard, and all else will be raised by natural gravitation. The capitalist, the employer, the merchant, the professional man, all in turn find increased prosperity from this greater ability to consume, inherent in our working people. But this greater consuming power cannot be maintained, far less increased, by taxing the dollar of the workingman, but, on the contrary, by the elimination of all taxes, public, corporate, or private, so far as possible, therefrom.

CHAPTER VIII.

PRODUCTION OF TEXTILES IN GENERAL—THE IMPORTANCE OF THE CONVERTING INDUSTRIES—LABOR-SAVING DEVICES.

NEXT to the agricultural interest, that of textile industries is of the greatest importance commercially and economically. If for no other reason than as employer of labor, it would be well worthy of the most earnest attention of the statesman. In connection with foreign affairs, the importance of the textile industries is apparent at a glance when their large proportions are taken into view, as illustrated by their position in foreign trade and commerce.

1881.	General exports.	Exports of textiles.	Percentage of textiles to general exports.
Great Britain . . .	\$1,123,000,000	\$590,000,000	52½
United States . . .	884,000,000	15,000,000	1 ⁷ / ₁₀
Germany	715,000,000	197,000,000	27½
France	658,000,000	165,000,000	25

We are not very great exporters of textiles (our share in the combined export trade of \$967,000,000 of the four principal commercial nations of the world not being more than \$15,000,000.) but as if to compensate for this shortcoming, we make up for the difference as importers of textiles, where we hold the first rank :

	General net imports.	Imports of textiles, including apparel, etc.	Percentage of textiles to general exports.
Great Britain (1881)	\$1,900,000,000	\$93,000,000	5 ¹ / ₆
United States (1881)	642,000,000	113,000,000	17½
United States (1884)	667,000,000	130,000,000	19½
Germany (1881) . . .	712,000,000	90,000,000 ¹	12½
France (1881)	950,000,000	43,000,000	5

¹ Including \$65,000,000 of yarns.

Nearly one fifth of all our imports are textile manufactures, and when we deduct from the imports of textiles all yarns, as we do not import any, while they form a very large part of the textile imports of Germany and France, then our imports in textiles nearly equal the imports of these three nations combined :

	1881.
Great Britain	\$96,000,000
Germany	35,000,000
France	36,000,000
	<hr/>
	\$167,000,000

The United States in 1884 imported, excluding yarns, \$128,000,000, which is equal to the combined imports of Great Britain and Germany, or nearly four times the imports of either Germany or France.

THE IMPORTANCE OF THE CONVERTING INDUSTRIES.

But there is a new and very important adjunct of the dry-goods business connected with this trade now, which from its magnitude deserves prominent mention: that of ready-made clothing for men and women. Speaking of the wholesale branch of this business alone, including shirts, millinery, etc, I doubt that there is any industrial branch in this country which gives employment to so great a number of people. Commercially this trade is not of less importance. It may safely be said that of all heavy woollens manufactured in this country, three fourths at least are converted by the wholesale clothing trade. It is an equally safe estimate to state that of all heavy woollens manufactured for ladies' cloaks, nine tenths are consumed in the manufacturing industry of cloaks. Of shirtings, flannels, and muslins it would be difficult to estimate proportions, but the immense quantities consumed in the ladies' underwear manufacture, in that of men's shirts and kindred manufacturing industries, can safely be measured by hundreds of millions of yards. It is, therefore, fit to speak in this connection of these industries, industries of recent growth only, the children of the sewing-machine, so to speak.

The annual sales from first hand amount to fully \$300,000,000, all of which is consumed at home. Though it may safely be asserted that this branch of the dry-goods trade is more developed

in the United States than in any foreign country, yet our exports are nil, while the exports of foreign nations are largely composed of made-up clothing, etc., hats and caps, shirts, millinery goods, etc.

	Exports of general dry goods exclusive of yarns.	Exports of made-up dry goods. ¹	Per cent.
Great Britain	\$500,000,000	\$50,000,000	10
Germany	165,000,000	21,000,000	13
France	158,000,000	22,000,000	14

For manufacturing purposes the sewing-machine is employed perhaps as universally in Germany, France, and England as in America, yet it would not be a rash assertion to maintain that the factory organization in the United States, including the power employed, is far more complete in this branch than elsewhere. Though I am not able to make comparisons from personal observations, yet there are many indications to prove that we use even in steam-power factories far less help for a given amount of work than the French do. For instance, one of the greatest French authorities, M. Leroy-Beaulieu, in his book, "Le Travail des Femmes au XIXme Siècle," has given some very interesting details on this very modern subject. The number of basters and finishers employed in a white-goods factory, preparing the materials for the machine operator, sounds astonishing to an American. He speaks of the co-operation of four persons for one machine as an ordinary method of work. The forewoman of the firm of Godillot & Cie., at Paris, a house employing about 1,000 people and using steam as a motive power, told M. Beaulieu of ten to twelve persons required for one machine to prepare and to finish the work. He adds, however, that this is not the ordinary proportion, and that every thing depends on the material and the skill of the operator. So far as wages are concerned, they seem liberal compared with the usual rates paid for women's work in Europe. What he says in a general view is attributable to the United States to a greater degree yet : "When we enter into an inquiry on the influ-

¹ Not counting hosiery or knit goods.

ence of the sewing-machine on wages, we may present this as an almost certain fact ; it is indisputable that the machine-operators' pay is higher than the hand-sewers' wages were ever before." After one month's apprenticeship the firm of Godillot pay their operators 3 francs 50 centimes, or 66 cents, a day. The firm of Hayem gives 3 francs, or 57 cents, as the average, but 5 francs to 6 francs, or from 95 cents to \$1.14, for their best operators. Basters and finishers get 2 francs to 2 francs 50 centimes, or 38 to 47 cents, or, as the highest attainable rate, 3 francs to 3 francs 25 centimes, or 57 to 63 cents for 11 hours' work in the factory. These wages seem high compared to the 2 francs, or 38 cents, which M. Beaulieu states as the average of female wages in Paris, or even the higher rate of 2 francs 78 centimes, or 52 cents, the average for the same class of workers, according to a report of a parliamentary commission by M. Ducarre, Deputy of the Rhône Department.

Mr. Edwin Chadwick states the weekly wages of an English operator as ranging from \$3.84 to \$6 (16 to 25 shillings).

Daul, "Die Frauenarbeit," gives \$2.14 to \$3.24 as the weekly earnings of German machine operators.

In American white-goods factories finishers get about \$5 a week, while machine-operators (entirely piecework) earn from \$6 to \$8. The baster is a thing of the past. The finest work is made and completed exclusively by machine work, except a few finishing stitches by hand sewers. While in French factories an average of four hands to one machine is counted, the proportion in an American factory would hardly be expressed by a reversal of the figures, hardly one finisher or extra hand being required to four machines, and this only in the finest work, the cheaper kinds being done entirely by machine.

CHEAPNESS OF AMERICAN WORK.

The manufacturers of other countries would be astonished if they could look into our factories and examine how we manage to produce such heaps of work at such trifling expense by the piece. A look at our tool chest might explain the secret to them. The hemmers, the folders, the binders, the corders, the tuckers, the rufflers, the plaiting machines, the puffers, the guages, the edge-

folders, etc., etc., are all of American invention. With their aid and a proper division of labor, all the work is accomplished with such rapidity and cheapness that we have no difficulty in finding a market in Canada. Of course this applies only to plain work—that is to say, goods made entirely of American cotton goods. As there is, however, a great deal of embroidery and other fine imported material—such as laces, fine muslins, nainsooks, etc.—used in all such work, and as we have to give to the government and to the fetich of protection four yards of these for every ten yards used, of course this whole trade falls to the ground.

The subdivision of labor in this branch of industry, it will be readily understood, is practised to the minutest details. The invention of new machinery and improved appliances is about as rapid as the American manufacturer is quick to discard his old machines and make room for the new better thing, if it materially cheapens the product. The Pacific Tucking Company own a machine arrangement by which they can do tucking at a far lower rate than manufacturers can do it in their own steam-power factories. The consequence is that every manufacturer sends his material to the company's factory, to have his tucking done there at the very small price of twenty-five cents for a hundred yards, including cotton for sewing and manufacturer's profit.

Of course the efficiency of an operator counts for a great deal. The highest earnings at the same rates by the piece are made by those who turn out the best and neatest work. Their work needs no mending or overhauling. They are the most profitable to the employer, and no manufacturer who understands his business would not rather have fifty operators who earn \$10 than 100 operators who earn \$5 a week. Nor would he grudge them their earnings, because they are the cheapest to him in the end, as is very apparent :

1. From the saving of machinery and space.
2. From the saving in expense of superintendence and examination, and,
3. From the better work, assuring a higher selling price for the product.

The difficulty is not so much in the insufficient earnings to afford a decent living to our working classes, as in the short time and

lack of employment. The half-time, the weeks without work which follow a few months of extreme activity in each season, are equally dreaded by the employers and employed. Larger markets would be a great relief to both. They would add so many additional weeks in the year's earnings, without in the least necessitating any deduction of the operators' pay by the week or by the piece.

The question may be raised whether our foreign competitors may not possess the same means and labor-saving tools. To this there is a twofold answer: First, it does not appear that when machinery is used, it is made to yield the same results; and, secondly, many of our most advantageous appliances and machines are entirely unknown to them, as evidenced by the imported fabrics of foreign manufacture.

An American manufacturer of knit shirts and drawers has lately returned from a European trip. He found no difficulty in making a market for his goods in London. Of course this only applies to cotton goods, or goods with a very slight admixture of a cheap wool; the higher wool grades would be excluded by virtue of the wool tax. He found by comparison that one of his operators on a cylindrical knitting machine turns out about as much work as four machines in Chemnitz, Saxony. "Of course," he said, "I can afford to pay my operators a dollar against the twenty to thirty cents a girl gets in Chemnitz."

The improvements we are making in every kind of machinery would be a very interesting topic, but would lead me to occupy more space than I intend giving to this subject at present, but explains fully how our operators can make comparatively high earnings coupled with low labor cost.

I will describe one machine of American invention to illustrate this fully. Ladies' cloaks of plush, velvet, damassée, etc., lined with quilted satin, have been very fashionable for the last few years. I have examined a great many imported garments of this kind, mostly of Berlin manufacture. I have examined the linings and found them all quilted with the sewing-machine of a single needle. We, on the contrary, use quilting machines, driven by steam-power, which are able to quilt the material, of from eighteen to thirty-six inches in width, right through. The machine has

seventy-two needles, which all operate at the same time, and can do the work in diamond, zigzag, wavy line, or scallop patterns. In a yard of thirty-six-inch quilting are about one hundred yards of stitching, counting the exact space over which the stitches run. So far as the direct labor cost of this work is concerned, it is not more than four fifths of a cent, as one operator can do a thousand yards a week at a salary of eight dollars. Imagine how long it would take a single-needle machine operator in Berlin to turn out a thousand yards of quilting, and how much it would cost even at the low wages of one mark or twenty-four cents a day; our work, besides greater cheapness, having the merit of much greater regularity and beauty.

The machine described here does the work on the running length of the cloth. It would not be applicable to the quilting of petticoats, which are cut in gores to form a conical-shaped skirt. Another American invention, not used in Europe either, supplies this want. It is a quilting machine, where as many as thirty needles, simultaneously sewing, are set so that the size of the upper stitch is smaller than the lower stitch, so that the quilting comes out in perfect proportion all the way up to the end of the pattern. In this way a rounding is formed in conformity with the shape of the skirt. Sewing cotton, wadding, etc., included, this work costs from \$1 to \$3 a dozen according to the depth of the work. In the highest-cost pattern are thirty lines of quilting, equal to sixty lines of straight sewing. As there are thirty yards of straight sewing in a dozen skirts, there are nearly eighteen hundred yards of sewing for less than \$2, or ten yards of single sewing for less than one cent. Through the inventive spirit of our people difficulties are overcome which at first sight seem almost insurmountable.

Another machine of American invention, of even greater importance in the matter of dress manufacture both for men and women, is the button-hole machine. Even this is not known in Europe, if we may judge from the many cheap garments imported from Berlin. If anywhere, it might find employment there in ladies' cloaks and jersey waists, exported in large quantities to America. But all button-holes which I have seen in imported garments are hand-made, and as to that, mostly very poorly made. American-made button-holes are all machine-made and generally

very solid and closely worked. The price by the piece is very low. For a good-sized button-hole, including the sewing silk, we pay now forty cents a hundred. A very recent invention is a button-hole machine which automatically marks and cuts the button-hole, and which can do the whole work, including the silk, for twenty cents a hundred button-holes. At this rate it would be a very difficult task for a Berlin hand button-hole maker to compete at one mark, or twenty-four cents, a day with an American buttonhole maker at \$1.25 to \$1.50 a day. Of not less importance and ingenuity are machines which sew on buttons or stitch eyelets, etc.

But this might be followed *ad infinitum*, were it my object to write a history of labor instead of pointing out the difference in the methods and the relative productiveness of labor in competing nations. It seems to me that I have sufficiently demonstrated the point, that our labor cost is relatively cheaper, our productiveness greater, than that of other countries, and that price differences against us are not in the labor cost, but in that of the material.

CHAPTER IX.

IRON AND STEEL.

No review of the industries of our country would be complete without an inquiry into our position in the world of iron and steel. Here more than anywhere else the productive methods and other intermediate opportunities are of far greater importance as price-makers than the accidental amount of wages paid here or there as compensation for a day of labor. And yet if we were to judge of the relative positions from official data, we should have little else to stand upon than the often repeated quotations of the weekly or yearly earnings, the kind of food consumed by the working classes, etc., etc. For any thing directly relating to the composition of prices of the product of labor, we should be not wiser than before examining the contents of the blue books. Fortunately, however, there is a great deal of outside information on this great question of the price regulator of iron, by far the most valuable of all metals, especially so in the cruder forms of iron and of steel.

So far as the metal is concerned, in its last stage of finish and usefulness to man little need be said. It is sufficient that we have conquered the world's markets for our clocks, our sewing-machines, our agricultural machines, and motors of all kinds, locomotives, engines, hardware, tools, etc., etc. On the materials which we consume in the construction of these articles we have to pay duties, if they are imported, ranging from 45 to 75 per cent. The materials of American production even now under the great depression in the iron and steel industries, are 25 to 33 per cent. higher than in England or Germany. We pay our help twice and three times the weekly and, when fully employed, yearly wages paid in Germany, and still we invade their own country of cheap labor. The further our manufactures are removed from the crude material and fabric, the more labor is put into the work, the easier is the contest and victory for us. How we do it is too well known to an American reader to require

long explanation. We build machines to do the work which in cheap-labor countries is mostly done by hand or with primitive tools, or with tools and machines slowly progressing to a higher stage. We construct special machines for each part of a new machine, or a tool, or a fire-arm, as soon as we find out that there may be demand enough to promise a return of, and a profit on, the outlay. It can never more be a question of how we can control the home market. This could not be wrenched from us any more than our home market in wheat by German or British wheat. The question is how to extend our foreign market, how to give increased employment to our machine-shops and foundries. No reduction of wages would be required, as we are now able to compete with the world under the great oppression of higher iron and steel prices. What we need is simply a reduction in the prices of crude iron to the basis of foreign iron prices, as nearly as can be expected from our position as producers of pig-iron, on which point I shall treat in another chapter. These higher prices of the crude and raw material are now matters of much graver importance than at the time when we had not sufficiently advanced in manufacturing industries to supply our own wants. Then it was simply a question with us whether we should find it good economy to tax Peter to pay Paul. But now, when our productive capacity has outgrown our own markets, when we produce in nine months what we can barely consume in a year, then we can safely say that any measure increasing the cost of materials beyond their normal price is taxing Peter and robbing Paul.

When we have arrived at such a stage of our history, then such a tax system ceases to be "protection," and begins to be a direct tax upon labor and capital—upon labor and the laborer's earnings, pure and simple.

HOW OUR PRICES COMPARE WITH FOREIGN PRICES.

That the tax on the cruder forms of iron is a burden upon our industries, will be contested by few. Even the very pets of protection, the Bessemer-steel producers, will admit it, not voluntarily to be sure, but when confronted by figures. It would be too inconsistent to admit now that they could do without protective tariffs, when two years ago they grew frantic and saw destruc-

tion and ruin in the work of Congress reducing the duty from \$28 to \$17. But what is the condition to-day? The British price of Bessemer-steel rails is £4 15s., or \$22.75, free on board. The American price on board cars at the mill has been as low as \$26, a difference of from \$3 to \$4 a ton.

Sure, it would cost this much alone in freight and commission to land a ton of English rails and lay them down on the wharf in New York, even under most depressed freight rates, if there were not a cent of duty to be paid. But in slavish subserviency to the fetich of protection, the owner of the steel-works insists on the continuation of the present system of tariff taxation, and he willingly submits to the differences against himself as compared to the charges of the foreign producers, as will be seen from this balance-sheet: For the production of a ton of Bessemer steel it takes about $1\frac{1}{4}$ tons of iron, according to our Census report. This includes Spiegel-eisen, which has to be imported, and pays a duty of \$6.72 a ton. But as not more than about $\frac{1}{12}$ of Spiegel-iron is used, we will call all the iron pig-iron. Now the present price of Scotch pig-iron is £2 2s., or \$10.50, a ton, while the cheapest grade of American iron could not be brought to the Bessemer converter for less than \$16 a ton. At $1\frac{1}{4}$ tons at \$5.50, or $1\frac{1}{2}$ tons, according to Mr. J. Lowthian Bell in *Iron and Steel*, there would be a charge of \$6.60 against the American manufacturer for iron and 50 cents for his fuel, if the works are well situated, or in all \$7.10, in favor of the foreign works.

Were our raw iron as cheap as it is to the foreign steel-maker, we could certainly produce Bessemer steel at \$20 a ton, and undersell Great Britain or Germany by three to four dollars, and be just as well off as under present conditions, when we have to bear an extra charge of \$7.10 on our materials.

Under this condition of affairs, as illustrated by the hard, irrepressible facts of indisputable prices, it would be a waste of time and effort to discuss with our protectionists their stock argument of the higher rate of wages. True, the rate of wages is higher, the earnings are higher, but the product is cheaper than anywhere in the world, if the higher cost of the material is eliminated from the computation of prices. This is conclusively proven by the above, and needs no further comment.

Ablly supported by our protectionists, who insist, as a groundwork of national prosperity, upon the necessity of an even taxing all around, and thus prevent us from sending our steel rails to South and North American countries, the English and Continental steel-makers have entered into an agreement not to sell their rails below a certain price. They were compelled to this by the ruinous competition which had forced the price down to £4 5s., a figure slightly above the one at which we are selling rails now in protected America (the material being calculated on the basis of the foreign material cost).

The London *Economist*, in its trade review of 1884, says on this topic : " Under the influence of severe competition the price of steel rails was forced to about £4 per ton (£4 5s. being the lowest reported quotation) in the month of January, and immediately thereafter an arrangement was come to among the principal makers of this country and the Continent by which the price was advanced from £4 15s. to £5 5s., with an understanding that the orders received were to be apportioned among the different makers. So far this arrangement appears to have worked satisfactorily, although the volume of business has been small, and it is no secret that some large buyers are holding back in the hope that this combination may be broken through, and it is certain the advance in price must have tended to restrict business." We might as well have our share in this parcelling out of the trade of the world in steel rails, or, by a sort of Battle of Dorking, not dreamed of when the book of that name was written, force in open competition the trade of the Continent.

Our preventive tariff, however, insists that we shall not send our steel abroad when half our steel-works are idle, and when, without any tariff, not a ton of rails could be landed here even if the price of foreign rails were £4, or \$3 to \$5 less than the present European combination price.

THE INROADS WHICH STEEL IS MAKING IN THE PUDDLE-IRON INDUSTRY.

The changes which are constantly going on in the world of iron and steel are of a nature which would hardly permit using figures of prices and of methods of two or three years ago for arguments

or conclusions of to-day. An invention, an improvement, thought out in the quiet study of the scientist, is apt to throw out of work and earnings thousands of helpless and industrious workers, to confiscate or make worthless millions and tens of millions of capital, and bankrupt and wreck a life-time of anxious, intelligent leadership. Such a change has taken place and is taking place in the iron trade. The rapidity with which improvement follows improvement in the process of manufacturing steel by the Bessemer, open hearth, and other processes, almost defies recording. The iron puddler is especially suffering from this inroad, and when we examine the rapid advance in the production of steel, coupled with a great decline in prices, we can well imagine that great displacement must run parallel with this extension, and that a decline in the iron industry cannot be attributed to foreign competition, but must be sought in the inroads of science and thought upon the domain of action and matter. Now, in this realm, no country can wrest the laurel from America. If once placed on an even footing with her competitors, she will be the arbiter of the world's markets.

TABLE SHOWING THE NUMBER OF TONS OF BESSEMER AND BASIC STEEL PRODUCED BY AMERICA, GREAT BRITAIN, AND GERMANY.

	Bessemer Steel.		Basic Steel. Germany.
	America.	Great Britain.	
1884	1,538,355	1,300,000	
1883	1,654,627	1,553 380	970,000
1882	1,696,450	1,673,000	993,000
1881	1,374,000	1,780,000	865,000
1880	983,000		
1878	732,000		
1876	526,000		
1874	192,000		
1872	120,000	500,000	

New employments, for which puddled iron has been in use formerly, are found daily for steel.

"Iron rails have been displaced by those of steel, and the

puddling furnaces thus laid idle have found employment in furnishing plates for shipbuilders. But, whereas, in 1877 the tonnage of vessels built of steel was 1,118, in 1881 it had risen to 71,538. Has the puddler before long to see his occupation in connection with shipbuilding follow the example of the rail trade? . . . And many other, we may say most other, trades for which puddled iron is now used, in the course of time will be supplied from the Bessemer converter or from the open-hearth furnaces." (J. Lowthian Bell, in *Iron and Steel*.)

In America the iron nail is beginning to be displaced by the steel nail, which can be made as cheaply as the iron nail. So will a great many other industries, fence-wire making, structural iron, etc., follow suit, and gradually the age of iron will be gliding into an age of steel. The greater durability of steel would alone suffice to make it preferable to iron, when once we have adapted our mills to its production and transformation. There is, however, a decline of consumption to be expected from this greater durability of steel. This, again, will be balanced, after perhaps some transitory suffering, by the more extended use found for steel than heretofore for iron—steel sleepers for railroad building being one of the new uses, for instance. Many others will follow, and finally, I may venture to say, steel will perhaps become a very formidable opponent of our lumbermen, and prove a very beneficent factor in the preservation of our forests.

A TAX UPON THE MATERIAL IS A TAX UPON WORK AND WAGES.

The present low prices of iron and steel prove fully that our manufacturers and workmen need not fear foreign competition, not under severe pressure from equally depressed markets in Europe, had we free trade in all forms of iron. Our greatest pressure upon profit and wages is sustained from home competition in markets limited to the home demand.

I will show the disproportion of tariff charges upon iron prices of to-day, when comparing them to foreign prices, and taking \$3 as a sum covering freight and charges under very lowest freight rates of dull markets. The prices are the lowest quotations of the year.

	Lowest Amer. price of 1883.	English price.	Ft.	Duty.	English price in New York.
Bessemer steel, ton	\$26 00	\$23 00	\$3 00	\$17 00	\$43 00
Bar iron, medium Staffordshire, £6 to £6 10		30 00	3 00	20 00 ¹	53 00
American, 1 ¹ / ₁₀ to 1 ¹ / ₈ cents a pound .	39 20				
Scotch pig-iron .		10 50	2 00	6 72	19 22
American No. 2 .	\$17 to \$18				
" No. 3 .	\$16 to \$17				
Gray Forge iron .	\$15 00				

Now I will also show the differences between American and British iron and steel prices, if the difference in the prices of the material entering into each ton of product is deducted from the cost :

	Tons pig in finished ton of	Tons of fuel in ton of	Increased cost of pig-iron in ton of	Increased cost of fuel.	Increased cost of both over Eng- lish material.	Smaller or greater cost than Eng- lish ton after de- ducting differ- ences.
In one ton of Besse- mer steel . . .	1 ¹ / ₈	² / ₃	\$6 60	\$0 50	\$7 10	—\$4 10
In one ton of finished bar iron . . .	1 ¹ / ₈	2	6 18	1 50	7 68	+1 52
One ton of pig-iron						+6 00

The nearer we come to the cruder forms, pig-iron, the nearer is the price to the foreign price inclusive of duty and freight. The difference here is barely \$2 between the duty-paid price of foreign pig-iron and American pig-iron, while in bar iron there is a difference of \$14, and in steel rails of \$17, in our favor against the foreign duty-paid price ; both of these, however, have to pay \$7 more for their pig-iron than the Scotch or English puddling iron-men and steel-makers have to pay.

Most of our iron-men would object to a lowering of duties.

¹ This is the average ; the rates are from $\frac{8}{10}$ to $1\frac{1}{10}$ cents a pound.

They will say, if steel or higher grades of iron are nearly as cheap as foreign iron, we may be content and leave well enough alone and keep foreign iron out forever. They think of the golden harvest of 1879 to 1881, when prices jumped up from the lowest rates to the extent of the full duty and highest freight rate, a clear 100 per cent. over previous prices. And this is undoubtedly the real cause of their persistent opposition to a thorough tariff reform. Such violent fluctuations and changes may be very pleasing to the iron-men, but are sources of great annoyance and loss to all the multitude of trades and manufactures who are dependent on these cruder forms as their material of manufacture. Every exporter and export manufacturer knows how difficult it is to form and maintain foreign connections on account of these fluctuations in the price of our raw materials. Many very profitable connections established in the years of 1875 to 1879 were lost in the boom years, and had to be made over again after the boom had spent its force and when foreign trade was again considered good enough to help us out in our depression.

Staple prices may not build up fortunes very rapidly, but they are a necessary foundation to a solid prosperity, and more apt to give us lasting happiness and contentment than the big fortunes, lost almost as quickly as they are made. Any one who knows any thing of the real nature and composition of prices must be aware that prices have always to fall back upon their true level, and that a rapid rise will be followed by a violent fall.

Price regulation cannot be maintained under the free play of competitive forces.

Now, to counteract these natural conditions, combinations to hold up prices are resorted to by the steel-makers. They resolve to limit the output and distribute production pro rata among the different plants. But when limited demand closes accustomed markets, decreased production follows as a natural consequence, combination or no combination. But still every one strives for the greatest share of possible business. Price regulation in times of depression is therefore easier ordained than maintained. Besides this, new factors will always come into play which will overthrow the finest schemes and machinations of the

combining forces. So, for instance, among all forms of iron steel is beginning to crowd out iron more and more, as has been said above. This is made very apparent by the last statement of the American Iron and Steel Association. While all other iron branches report a lessened production, the product of the first half of 1885 was 763,000 tons of Bessemer-steel ingots, an increase of 40,000 over the first six months of 1884. The production of steel rails for the same two periods however were 523,251 against 452,446 tons, a falling off of 70,000 tons. The difference went into other manufactures for which puddled iron had been used formerly, bars, plates, nails, etc. In all 300,000 tons went into other uses than rails from a six-months' production. This new use has been of recent date and of constant growth. During the last half of 1884 the excess of the amount of ingots produced over the amount of rails was 200,000 tons, or 100,000 tons less than the difference in production during the first half of the present year, a fact which shows the growing demand for Bessemer steel for purposes other than rails. All this ought to have assisted in maintaining prices, but instead of this, they have been declining to the time the combination was formed. But even this powerful organization will not be able to do more than pass resolutions, so long as the demand is not great enough to justify an advance. The present advance is only nominal, and large contractors could easily place contracts at old prices. All this in consequence of more works being in operation, all eager to keep running, than even the newly created demand can find employment for. Combinations of this sort are like combinations of railroad lines in times of decreasing business demands, they are broken by the contracting parties as soon as made. They are made for the purpose of being broken, each one thinking the others will adhere to the bargain, and he deriving increased business from a concession. This is the unalterable result of business depression. The reverse, of course, follows times of increased activity.

But another and far more powerful factor is the other point at work in price reduction, alluded to before—*i. e.*, the influence of the mind—that is, of new inventions, on price-making. A new process of steel-making, the Clapp-Griffith, is coming into use, which seems to revolutionize the steel trade the same as the new

steel-making process has neutralized a good share of the existing iron plant. Aside of the cheaper cost of erection, this new process has the great advantage by removing with great ease the silicon, to enable the use of our Southern and other cheap American ores for steel-making. It is calculated that the cost of converting pig-iron into steel at the blast furnace is three to four dollars a ton. Under such circumstances it will be readily admitted that there is not much room for kite-flying in prices. Open markets for our products would be a far more powerful stimulant to prosperity than anxious, timid exclusion. Open markets would give more expansion to the labor and profit share in the product, than even sanguine observers imagine.

CHAPTER X.

PIG-IRON—THE COMPETITIVE ASPECT OF ITS PRODUCTION.

PIG-IRON holds to-day the key to the whole situation. For the last twenty years pig-iron was king. Pig-iron rules as completely our national destiny as cotton was in supreme control of our government before the war of secession. The claims of pig-iron have always been of the most pretentious kind. It has always been considered a kind of sacrilege to inquire into the validity of these claims. I have therefore endeavored to bring under comparison the territorial and other influences bearing on the production of pig-iron here as well as abroad.

The principal reason advanced for the maintenance of the high duties on foreign iron has been the labor cost. It has been held that we can never make iron as cheaply as other nations. That we have not been able in the past, is indisputably in evidence. That we are making as cheap iron now in Alabama as can be made anywhere in England or Germany, is a complete refutation of the plea of the higher labor cost against us in the production of iron. The direct labor cost per ton of pig-iron has always been so small a percentage of the whole cost of iron, that it ought to have been apparent from the beginning of the controversy that there were entirely different causes to account for this higher price than direct labor cost at the furnace or at the mines. This labor cost is a given quantity at both ends of the line here and abroad, easily traceable, and a comparison will show that the differences, if any do exist, are of so trifling a nature that they would be more than balanced by transportation expenses and charges on foreign iron at ever so low a freight rate. But at the present time even this price difference of labor does not exist.

Mr. Abram S. Hewitt informs me that at the works of his firm the present actual outlay for labor in a ton of pig-iron is \$1.40, without any allowance for incidental expenses. The report of the

Bureau of Statistics of 1872, page 539, gives the cost of pig-iron production in the United States from 1850 to 1871. Omitting the years of inflation we have the following data for labor : 1850, \$2.22 ; 1860, \$1.87 ; 1861, \$1.97 ; 1863, \$2.07 ; from then progressively rising until the maximum was reached in 1873 at \$5.11. But this rising scale was proportionate to a general rise in pig-iron both as to selling price and wages all over the world ; *Scotch pig-iron* being quoted in England with *average wages of miners* :

Price of Scotch pig-iron.	Miners' wages.
In 1860 at 53s. 6d., or \$12.87,	per day at 3s. 6d., or \$.84
In 1873 at 117s. 3d., or 28.12,	per day at 9s. 11d., or 2.38

But how does the labor cost of the present time on pig-iron compare to that of foreign low-priced labor ? The daily average wages of men employed at the blast furnaces in Rhenish Prussia in 1878, were 2s. 7½d., or 63c. Mr. J. Lothian Bell, in "Manufacture of Iron and Steel," gives an account of a blast furnace in Rhenish Prussia, which is worked by 117 men, who were paid collectively £5,581, or £47 14s. per head, or \$228.96. Their average yearly production for that year is given as 132½ tons, which makes the labor cost per ton come up to \$1.66.

Speaking of the output of German furnaces, Mr. Lowthian Bell may be quoted. He says in this connection : "None of these figures, however, are any approach to what is done by the workmen at the Cleveland furnaces, and illustrates what has been already observed in these pages, that well-paid and well-fed men are not always more expensive to the employer than badly-paid labor. As a matter of fact I have rarely found the wages on a ton of the furnace produce to amount to less than what I have found it to be in Cleveland." For every 20s. earned by blast furnacemen in the Cleveland iron district, Mr. Bell found the earnings in Westphalian iron-works to be from 12s. to 13s.

For Birmingham, Ala., the labor cost of producing a ton of iron was given to me by Mr. Lindley Vinton, President of the Vinton Iron-Works, at Indianapolis, who had just returned from a trip to the Southern iron district, as \$1.66 a ton at the Sloss furnace at Birmingham, Ala. This is a general estimate of the cost. The men working at the furnace, are paid from 75 cents to \$1 a day,

but there are 200 to 250 employed at a production of 150 to 180 tons a day. These figures are supplied by one of the firm. Averaging the numbers given, we arrive at this result: 225 men at 87½ cents, divided by 165 tons, equal to \$1.20, or at the most favorable productive situation of cheap labor, a saving of 20 cents a ton over labor in the Lehigh Valley. The furnace-owners, however, claim \$1.66 as their cost, or 26 cents above the Lehigh Valley cost.

But still, though the labor cost is nearly the same, Southern iron is now the great arbitrator and leveller of prices in the Eastern markets, and at a cost of \$3.75 to \$4.50 for transportation to the North, it can be landed cheaper at Northern points than Pennsylvania iron.

The labor cost need hardly be considered then either in iron making or in mining. I could prove with equal facility that the differences of cost of mining a ton of coal, iron ore, or limestone are of an equally trifling nature in different countries or in the different sections of this country.

The principal cause of the great price difference is the distance or proximity of the iron, coal, and limestone beds, which nowhere are better situated for purposes of cheap iron-making than in the Southern States, and perhaps nowhere so poorly situated for purposes of cheap iron-making as in most of the Northern States. This close neighborhood of all elements necessary in the production of iron saves a great item of expense, that of transportation of either one or the other of the materials.

THE IMPORTANCE OF FREE ORE.

Now, if our iron were ever so cheap—and it can be made in the South for \$9 a ton—it would not be of use to us in steel-making unless we have a full and free supply of foreign ore, or foreign pig-iron, for mixing. The ores of the United States are too rich in phosphorus for Bessemer-steel-making, and they have to be mixed with fully one third of carbonaceous ores, mostly from the Mediterranean, to make them available for steel-making. Although Great Britain has an inexhaustible supply of ores, yet she has only few of the character wanted for steel-making. Many mines are not worked or worked to a lesser extent, while ore importation is increasing in proportion as steel-making is extending.

British imports of iron ore in 1884 were 2,728,672 tons, valued at £2,111,890, or \$10,100,000, being \$3.70 a ton. It does not cost one half that money to bring a ton of English ore to the furnace, nor of Southern ore to a Southern furnace. A Cleveland (England) miner earns 5s. 5d. (the rate of 1882) for a day of eight hours' work, in which he mines five tons, which is about 25 cents a ton. In the Southern mines near Birmingham, Ala., the mining expense of a ton of 50-per-cent. ore is 21 cents, clearing 8 cents, royalty 25 cents, and transportation to the furnace 25 cents, in all \$1.04. In Western Germany the output is about two tons, a day of ten hours, per miner, for which he gets about 3 marks 40 (or 81 cents), which brings the labor cost up to 40 cents a ton.

Of course the labor cost varies widely with the nature and depth of the mine, the hardness of the rock, and the width of the vein. But even taking the highest rates paid here, it must be evident that the labor cost would not materially affect our iron miners were iron admitted duty free. So long as we circumscribe our industries by making them dependent in their materials on the cost of transporting the ores, etc., to badly situated furnaces, we cannot hope of ever gaining a position of lasting improvement. If we have to carry our ores from 500 to 1,000 miles of inland transportation to the furnace, as we have to do with many of them, where one ton at least is waste, but has to carry its transportation expense all the same, of course furnaces situated that way will be run down by others better situated. This is absolutely independent of any foreign competition. The forcible intervention of facts will bring this about. But it is wasteful to chain every industry to this forced situation, of upholding prices by government's action.

That the tariff on ores does not help the miner under any circumstances will be seen from this, that in the last year, which was a year of low prices in this country and of low production, we still imported 550,000 tons of iron ore.

We imported likewise	94,000	tons of Speigeleisen,
and	197,000	" of pig-iron

Total . . .	291,000	" at a duty of \$6.80 or \$1,980,000.
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This tax, including that on ore, of \$2,392,000 is laid directly on

the Bessemer-steel industry, consuming these foreign materials, which we have to import, duty or no duty, so long as we keep on steel-making. Now to lay a duty upon ores or coal under such circumstances is simply barbarous.

Ores cannot be produced by any labor process. They are a gift of nature. They cannot be improved or changed in their nature, if they do not possess the qualities and properties required in the process of working them into desired materials. The persistent imposition of a tax in the face of all these facts is a case of prevention of national activity by governmental interference.

Good ores are not so plentiful in the world that we need fear being flooded with them from abroad if we removed the duties. The demand for them is too great all over the world. They are becoming more and more inaccessible to low labor cost on account of the gradual exhaustion of the surface layers. They would command the same, possibly higher prices, if we admitted all ores duty free. They would be a very important addition to our own working materials, which would be in so much better demand by the free admission of the foreign mixing material. As it is, our iron-makers in Pennsylvania and other Northern States are the greatest sufferers. They are frequently dependent in their supplies on rapacious railroad monopolies, who, if they are not controlled by competing lines in their charges, are only too eager to apply the principle of railroading, "to charge what the traffic is worth." Of what importance this feature of cheap freight rates is in iron-making may be seen from this, that the iron-maker of Germany has a decided advantage over his English competitor, though his labor cost is higher, from the lowness of freights and the almost entire absence of royalties, as the mines are state property. In the Northern States the royalty at the present time of depression in the iron business is about 50c. a ton. In Germany coal and iron lands are state property. The royalty paid on the former by the colliery owner is 2 per cent. ; hence if the selling price is \$1.50 per ton the royalty would not be more than 3c. Iron ore pays no royalty. The relative positions of the principal iron states as to royalties in a ton of pig-iron on ore and coal is, according to Lowthian Bell : Great Britain, Cleveland district, 78c. ; Scotland \$1.44 ; Cumberland \$1.50 ; Germany 12c. ; France

16c. ; Belgium 30c. to 96c. In the Northern States of America the combined royalties would not be much different from those of Scotland. Pennsylvania iron-masters are beginning now to extend their operations to the Southern mining lands, buying lands and erecting furnaces. With the best modern appliances, cheap mining lands, no freights so to speak, iron will be made at prices as low as in any foreign country. The plan is now under consideration to raise capital for the purpose of extending water communication so as to enable carrying the furnace product direct to Mobile Bay. This advent of cheap American iron must necessarily break down all tariff walls, as the duty cannot possibly any longer protect but only debar home iron from the extended use it would find if foreign irons necessary for mixing, as mentioned above, could be had as free and cheap as they can be landed.

It is with iron as with wool. Unless the ores have the necessary requisites for making this or that kind of iron, this or that kind of steel, or for mixing with other kinds of ores to produce a desired kind of iron or steel, their value decreases in proportion to the difficulties placed in the way of reaching the combination material. Nowhere can ores be found in one spot which combine all qualities required by our complex industrial exigencies. The whole question of pig-iron making resolves itself into one of intermediate charges from the mines to the furnace. Labor must not be drawn into this question. It has nothing to do with it. It has been shown that the labor cost of this crude product on each item is nearly equal in most countries. It has been shown that where labor is paid highest by the day the output is largest, and that the difference is equalized thereby.

We have to discover what is different, and we have not far to reach in pointing it out. Indeed we have done this above, and have only to draw the final conclusion.

I. ROYALTIES.

For Germany we can trace back as far as the fourteenth century, that the feudal lord holding fief under the empire claimed royalty from those using the mines. Every individual could work them who paid his dues, and was in turn protected in his rights acquired thereby. The present German (Prussian) law seems to

have sprung from a self-developed *Bergrecht*—the law governing the working of mines,—based on the principle that mining-lands are a trust held for the community at large, and not a piece of property at the mercy of any single individual. The German law makes it impossible to the speculator to capitalize the soil, print shinplasters, and call them millions or hundreds of millions of marks or dollars. The law makes it impossible to victimize the poor innocents, who pay their well-earned money in exchange for finely lithographed papers, to find out soon enough that they have been the dupes of confidence operators. By the time the public discovers how they have been swindled, the operators who started the enterprise have usually cleared the field.

The German law makes it equally impossible to operators to buy up the mining lands of a whole region for a trifling sum, and clap a high tax on every ton of coal or ore that is taken from the soil, as is the practice in America—a tax often higher than the whole labor cost of taking the stuff to the surface amounts to. Were the coal and iron lands the property of the State, a charge of 10 cents would more than supply the State of Pennsylvania with all the revenue needed for its government, and give the people iron and coal so cheaply that the manufacturers would not need tremble at the great enigma which every new development presents to them. In close connection with this is :

2. THE TRANSPORTATION QUESTION,

which in Germany is also largely to the advantage of the producer. In this country, on the contrary, the companies who own the mines—Reading, Lackawanna, etc.—in most cases own the transportation lines which bring the coal to the furnace. Unless prevented by parallel lines, the charges are frequently so high that they make profitable manufacturing at times impossible. Philadelphia, the high-school of protection, is now raising a cry of distress against what it calls unjust discrimination. But all protection or legislation benefiting the few is unjust discrimination, and—Philadelphia ought not to complain.

The high royalties and the excess of transportation charges, based on excessively watered valuation of mine- and railroad-property paid by some of our furnaces, would more than cover the

labor cost contained in a ton of pig-iron. Our Southern pig-iron furnaces, which are free from these grasping charges, will find this to be their sole advantage. We are paying high taxes on the very essence of profitable manufacture, cheap raw materials, to enrich mine-owners and transportation companies. It is gross injustice to tax the millions, to close the gates to foreign commerce, in order to enrich the projectors of gigantic financiering operations. The protective tax abolished, the force of competition would press these private tax-gatherers to the wall, not labor. To an extent this will ensue even now, through the introduction of Southern iron, which under intelligent and economical management can be sold with a profit at \$10, and at \$9 even under close pressure, instead of \$15, the lowest price at which Northern iron (Grey Forge) is sold now.

Though it cannot be used readily for Bessemer steel, on account of being too rich in phosphorus, yet for merchant and other forms of iron it does excellent service. It can be used with equal advantage in the production of Clapp-Griffiths steel and in the Thomas-Gilchrist process.

"If the South should engage in the manufacture of Bessemer steel to a greater extent than it has yet done at Wheeling it would probably employ the Thomas-Gilchrist process, which requires that pig-iron should be high in phosphorus, that the work of elimination in the converter may be completely successful ; or it would employ the Clapp-Griffiths process, which is said to permit the presence in the steel itself of a large percentage of phosphorus without detriment to its quality, a result which is only rendered possible by the rigorous exclusion of silicon."

These are the words of Mr. Swank, the Vice-President of the American Iron and Steel Association, taken from the latest reports. Connecting this with what was said above, we can safely say that our whole protective system has outlived itself, that from the highest to the lowest form of iron, from the machine to the ore, every form is vitiated by parasitical undergrowth. Health and vigor are thus prevented from getting the mastery in an otherwise strong organism.

CHAPTER XI.

THE NATURE AND COMPOSITION OF PRICES.

WE have now closely followed the methods of production of different nations. We know the part the producing classes take in the making of the product. This knowledge gained, however, does not yet give a full insight into the nature and composition of prices. We see prices of commodities rise and fall without any great reference to tangible facts. At this present time especially we live in a period of declining prices. Economists are engaged in attempts to find solutions. The explanation which finds most favor, is the money view of the problem. Mr. Goschen, of English fame as a financial genius, was, to my knowledge, the first to take in hand the task to give an explanation of the decline in prices in general and especially so in British estates. He did not have to go very far in search for this explanation, as he had it all ready at hand. It is the lessened output of gold. He attributes the decline of prices in all commodities directly to the decrease in the output of gold. Mr. Giffen, the Secretary of the British Board of Trade, has lately taken up the same side of the argument. The high esteem in which such writers are held, of course, elevates their reasoning at once into a kind of stock-in-trade argument of writers on that question in England, Germany, and America. A theory so easily handled as the money theory, with all the accessories which this term may imply, including fiat money, silver money, gold money, interchangeable, redeemable, non-redeemable money, of course is always a safe refuge for theory-builders. If history however were ever studied with a view of bringing out facts, it would be very hard work with builders of theories to find material for their thesis. But a man enamoured with a theory is never very materially interfered with if facts go against him. Mr. Goschen might have found out that it took fifty years and more in Europe until the very rapid addition to the world's stock of precious metals by the discovery of America made a perceptible im-

pression on prices. Mr. Goschen, however, is able to trace a recent severe decline of prices to a lessened production, which is of no later date than the last few years. But by actual measurement we find that the decrease in the metallic output is so insignificant that the effect could certainly not be immediately observable.

Before proceeding further let me state the facts as to the production of precious metals during the last fifty years :

THE WORLD'S PRODUCTION OF GOLD AND SILVER FROM 1831
TO 1881.

	Mulhall.	
	Gold.	Silver.
1831-40	\$140,000,000	\$270,000,000
1841-50	370,000,000	335,000,000
1851-60	1,360,000,000	390,000,000
1861-70	1,275,000,000	530,000,000
1871-80	1,150,000,000	830,000,000
1881	100,000,000	80,000,000
	\$4,395,000,000	\$2,435,000,000

For the last ten years Mr. Burchard, the director of the United States mint, sets down the world's product and that of the United States as follows (millions \$) :

	Gold.			Silver.	
	U. S.	World.		U. S.	World.
1874 . . .	33.5	113.5	1874 . . .	37.3	82.0
1875 . . .	33.5	113.5	1875 . . .	31.7	82.0
1876 . . .	39.9	114.0	1876 . . .	38.7	98.0
1877 . . .	46.9	114.0	1877 . . .	39.8	81.0
1878 . . .	51.2	119.0	1878 . . .	45.3	94.9
1879 . . .	38.9	108.7	1879 . . .	40.8	96.1
1880 . . .	36.0	106.4	1880 . . .	39.2	96.7
1881 . . .	34.7	103.4	1881 . . .	43.0	102.0
1882 . . .	32.5	98.7	1882 . . .	46.8	110.0
1883 . . .	30.0	94.0	1883 . . .	46.2	114.2
Totals .	377.0	1,084.0	Totals .	408.8	957.0

The recent decline in the production of gold from the largest, the decade of 1851 to 1860, is $28\frac{1}{2}$ per cent., and from that of the decade immediately preceding, only $16\frac{2}{3}$ per cent. In estimating the future yield not sufficient weight is given to new fields likely to be opened, or to larger returns of old ones under more scientific management. So, for instance, Russia, which gave to the world during the fifteen years of 1868 to 1882 at the average rate of £4,400,000 a year, produced in 1881 £5,940,000. What Central and South America, traversed by railroads and diffused with new life-blood by thus opening its immense tracts, would yield to the future, is merely conjecture. As a matter of speculation it can have no bearing on the present situation. I simply make mention of it to show that a gold famine is not necessarily threatening us even as a remote possibility. So far as the present situation is concerned as a price-making factor it will be seen that the last-named year has given us (in one single year) two thirds as much gold as was the output of the whole decade of 1831 to 1840.

It must be remembered all the time that gold is not eaten up like the year's crop of food, or worn off like our fibre products. The gold stock is cumulative, and the findings of to-day are simply an addition to the findings of yesterday.

Hence the slight decrease in gold production does not give the careful economist any right to base general conclusions upon the fact, the more as the possible influence upon prices, if such were to be admitted for the sake of the argument, is more than counter-balanced by increased silver production. Silver, I may be answered, is demonetized in many countries, and thus a severe strain is put on gold. Silver, however, is still the great circulating medium of the world, excepting Great Britain, Germany, and the United States, where, in the latter country, it is held as a reserve for a limited amount of paper circulation. Silver is held at the present day as part of the reserves of the banks of France in about equal part to gold, two to one of gold of the Bank of the Netherlands, in like proportion by the Bank of Austro-Hungary, and of Russia to a similar degree. But even in Great Britain the estimated amount circulating is in but a slightly smaller proportion to gold than in 1848. Mulhall estimates the ratio of gold to silver for 1848 as £55,000,000 to £11,000,000, and for 1880 at £124,-

000,000 to £19,000,000. All of which is to prove that silver is yet a very important factor as a circulating medium, and that its effect upon prices has to be counted likewise when the delinquency of gold is being taken to task.

It will thus be seen that the production of precious metals for the twenty years previous to 1850 was \$1,100,000,000, and for the thirty years succeeding 1850 was \$5,500,000,000. Besides all this vast increase of treasure we have yet to take into account the increase in the excess of paper money not covered by specie reserves, estimated for 1850 as \$450,000,000, and for 1880 as \$2,150,000,000, an increase in round numbers of \$1,700,000,000, which gives us a grand total increase in circulating mediums of say £1,500,000,000 sterling or \$7,500,000,000 in round numbers. There is another factor to be remembered: the extension of the banking system, through which checks are assuming the functions of money, making it so much less of an indispensable necessity; stocks, bonds, bills of exchange, etc., all serving as money in effecting clearances between nations and nations, and checks fulfilling the same mission between individuals of the same nation to a far greater degree than at the time gold diggings were begun in California and Australia. But I will waive this point and simply return to our money increase, equal in amount, dollar for dollar, to the increase of the foreign commerce of all Europe and the United States twice over, and behold, what an inflation we have before us! Ought not, according to the price theory of Mr. Goschen and his disciples, prices be away up in the skies? They would be rather so if prices were only partially as much influenced by the amount of gold or silver as is usually assumed to be the case. But how does the case stand? How do prices compare with say fifty years ago, when precious metals were indeed scarce and less by \$7,000,000,000 (less what has been destroyed by abrasion, etc.) than at the present time? Is there any foundation for any of these time-honored assumptions? Have we not before us a repetition of the puzzle which upset so many scientific minds at the time, namely, why water does not increase in weight when fish are put in? It will be remembered that a very plain matter-of-fact man proved the puzzle to be a hoax. Experiment proved that the weight was actually increased to the extent of the weight of the

fish put in the dish of water. So it will be found with the nature of prices when we trace them back, say fifty or a hundred years, and compare them with recent periods. Most people are satisfied if they look back a few years, note the change which has taken place, ascribe any reason readily at hand as the explanation of a phenomenon which may perhaps be as transitory as the real cause be remote from the one selected. If such explanation once has gained currency among the scribes, we hear the thing repeated with the same amount of thought as is expressed by the Buddhist priest in turning the crank of his prayer-mill. Many causes given in explanation of phenomena are borrowed from reasoners whose deductions might have been correct emanations of the data of their day. But how wonderful have been the changes wrought by the development of our age? How great the miracles created by the inventive genius of man? The work of ages is moulded in years. Distances are absolutely neutralized, and the whole world as to neighborhood is like adjoining villages of a hundred years ago. And with all this thought-like exchange of intelligence and commodities made possible by this rapid advance of events, the slow and measured philosopher is still satisfied if he can patch up a threadbare theory so as to serve in covering a world-wide change. Most reasoners fail so formally in their science because they lose sight of the fact that phenomena are born and fed by a multitude of causes, which have to be explained and understood in order to give weight and substance to deductions and theories based thereon. Without this, let us say, universality of investigation, false theories arise which may dazzle perhaps for the moment, but they will disappear after having created the mischief which necessarily and absolutely must follow in their wake.

Now as to prices, how do they appear under the glare of comparison? We have to take English prices and make allowance for fiscal changes so as to bring them as near as possible to a net basis. Take wheat, the most important commodity and the one most reliably quoted. From 1765 to 1791 (previous to the time when a new corn law was enacted putting a heavy duty on wheat when below 50s.), for a period of twenty-five years, wheat averaged 53s. the quarter, the lowest and highest prices being 36s. in 1779 and 59s. in 1773. I will not bring here the years following before

the abolition of the corn laws, when prices were ranging from 60s. to 120s. Artificially advanced by corn laws, and under the influence of famine, war, and scarcity, they would not be properly brought in here. I will commence with 1845. The average prices of five-yearly periods were as follows :

1846 to 1850	.	.	.	52s.	1866 to 1870	.	.	.	55s.
1851 " 1855	.	.	.	56s.	1871 " 1875	.	.	.	55s.
1856 " 1860	.	.	.	53s.	1876 " 1880	.	.	.	48s.
1861 " 1865	.	.	.	48s.	1881 " 1884	.	.	.	42s.

In December, 1884, wheat was 30s. 5*d*. This price was not reached for the last one hundred and twenty-four years.

This, however, takes us back into the period of low prices, which ruled in England for fifty years back of 1764. But even then we only count ten years when wheat was 30s. or under. From 1646 to 1715 the average price of wheat was 44s. the quarter.

Mulhall compares prices of 1845-50 and 1883 of sixteen articles :

Coffee	.	.	100	.	82	Leather	.	.	100	.	139
Copper	.	.	100	.	80	Meat	.	.	100	.	145
Cotton	.	.	100	.	89	Sugar	.	.	100	.	60
Cotton-cloth	.	.	100	.	92	Tallow	.	.	100	.	111
Cotton-yarn	.	.	100	.	100	Tea	.	.	100	.	76
Flax	.	.	100	.	68	Timber	.	.	100	.	108
Iron	.	.	100	.	79	Wheat	.	.	100	.	77
Lead	.	.	100	.	83	Silk	.	.	100	.	126

The price of raw silk has gone down considerably since 1883. A smaller demand, caused by changing fashion, has brought this about. A price comparison of to-day with 1847 is given on page 91.

Meat and leather are the only articles which show a marked increase. Timber and tallow come next, but the rise is so small that, in comparison to declines ranging from eight to forty per cent. on ten of the most important articles of consumption named in the above list, they can be passed over, as not very material, for briefness' sake. The great rise in meat, however, has to be dwelt upon more fully. In perhaps no other article of food have the fields of supply been so extended beyond those in existence before the advent of the era from which our inquiry starts—that previous to the great gold-finds and the abolition of the corn

laws in England,—as in that of meat. From America and Australia immense stores are shipped to Great Britain both in live and dead meat.

Canada and the Argentine Republic are getting more and more into line as purveyors of the British markets, not mentioning the many countries of Europe, who are still shipping not unimportant quantities to foreign, mostly English, markets. The imports for 1883 are, by the Board of Trade reports :

In living animals	£11,978,000, whereof the
United States supplied £3,700,000	
And in dead meats	£16,202,000, whereof the
United States furnished £4,500,000	

Or a total of £28,180,000 or \$140,000,000

The total importation in 1868 was £6,000,000 or about $\frac{1}{5}$ of the present time. The extent meat production has taken in the United States during the last ten years is so great, that figures compared with those of previous decades would make those of say 1850 appear quite out of proportion, even if divided pro capita. Outside of the \$100,000,000 we export in living animals, provisions, and lard, all our immense production is consumed at home. If the consuming power were not greater than say 1850, meat prices would be much below those of that period, while on the contrary they show a very formidable increase. The consuming capacity of the poorer classes has risen in the ratio in which the quantity produced has increased beyond the ratio of increase of population, multiplied by the price increase. If the consuming power and producing power had kept even step, the price would not have increased. The price increase shows distinctly that the consuming power is still ahead of the supply. The indications, however, are that production will keep on increasing, and that price decline of meat will be chronicled shortly as surely as the wheat decline is now one of the staying forces.

The consumption of meat in France has nearly doubled since 1840, while it has more than trebled in Great Britain. This makes it certainly clear that the rise in the price of meat, etc., is due to the perfectly natural cause of supply, insufficient for the greatly increased demand, and not to causes adduced by sublimated theory.

The increase in the price of leather and tallow can be traced to the same source: greater power of consumption of the working classes. The working classes are far better supplied with boots and shoes than in the former price-era mentioned above.

Comparing prices given by Tooke, ("History of Prices") for 1847, with price quotations of my own research from ruling (English) market quotations, we find the average to be this:

In the two periods.	1847.	1885.
Copper cakes, per ton	\$458.00	\$238.00
Bar iron, per ton	48.00	31.00
Lead, pigs, per ton	91.00	52.00
Tin, bar, cwt.	24.00	16.00
Cotton, American, lb.	0.12	0.10 $\frac{3}{4}$
Silk, Italian	5.00	4.30
Refined sugar, bonded, cwt.	7.68	3.84
Tea	0.60	0.30
Wool, English	0.48	0.22
Wheat, quarter	16.75	7.92
Wheat, bushel	2.10	0.99

[I have changed English money quotations to American, as the reader is more used to them.]

There is no doubt that if all other things had remained the same, the enormous increase in circulation would have brought up prices to a greatly higher basis. That prices are not higher, but far below the price era of 1845 to 1850—not by any means one of high prices,—makes it certain that other things did not remain the same, but underwent such changes that thereby not alone were obliterated all effects of the large additions to the existing mediums of exchange, but that they contributed largely to a still lower scale of prices from that ruling when money was comparatively a scarcity. I have simply mentioned raw materials and food products. Manufactures, it is well known, are on the whole cheaper yet, as the application of labor-saving machinery has been even more potential in price-making in this line of human industry than in the production of simpler articles. That we had intermediate periods of higher prices, is a known fact. They were, however, traceable to causes which by their presence and disappearance always proved to a certainty that it was not

the plethora of money which caused price increase. It would be useless to count them up here. The wars of the last thirty years were such terrific destroyers of property and commodities that they alone would suffice to explain to a very large measure the oscillating nature of prices. But that the tendency has been a downward one, instead of a rising one, is so clearly proven by the above that it would be a waste of words to add any thing further to the proof. That this has been so, proves sufficiently, that there are far more powerful factors at work in price-building than currency or the precious metals. It remains now to mention what in effect are the main tentatives in the construction of prices, when it will be seen that nothing less than the whole social fabric is tributive to and dependent on price-making and its factors. Though there may be a multitude of causes, yet we can only be concerned in those of a general and therefore permanent influence.

1. Land and its tenure, including natural forces.
2. Production and its methods.
3. Transportation.
4. Taxation and laws.
5. Currency and money.
6. Interest and capital.
7. Distribution and profits.

That prices and price-making influences cannot be considered from the narrow standpoint of a community or a nation, but of the world at large, can be illustrated by two examples. The doom of English and Irish landlordism is a foregone conclusion, pronounced and decided upon, not by a committee of foolish terrorists and dynamiters, but by the peaceable settlers upon free and cheap lands at 5 to 10,000 miles distant from the manorial estate. I may be answered that this detrimental influence is caused by the free access of foreign grains to British markets, which the Prussian junker is trying to overcome by laying a tax upon foreign food supplies. The possibility that the British people will ever submit again to a tax on their food in order to secure the permanency of a land-holding aristocracy is not very promising. Farming, it can be shown, is as profitable in England as anywhere, provided it be freed from its encumbrances. But, like any other industry, farming cannot carry two profits when competing

nations are satisfied to carry it on with one profit. The plea of the small rate of interest which the rent yields to the landlord— $2\frac{1}{2}$ per cent.—we need not consider, knowing that valuation has been more than quadrupled, and a rent of $2\frac{1}{2}$ per cent. is to-day one of 10 per cent. on the valuation of fifty years ago, and on the product of the same acre.

Mr. Wm. J. Harris, M.P., has lately contributed to the London *Economist* a paper on "The Saleable Value of the Produce of English Farms." He gives a detailed account of the value of English farming.

VALUATION OF THE SALABLE PRODUCE OF THE SOIL OF ENGLAND AND WALES.

Wheat—		Bushels.
England	2,530,711 acres, at 29 bushels . . .	73,390,619
Wales	77,611 acres, at 24 bushels . . .	1,862,664
	<hr/>	<hr/>
	2,608,322	75,253,283
Deduct seed (2 bushels per acre)	. . . . .	5,216,644
		<hr/>
		70,036,639 at 4s. 3d. per bushel
		£14,882,785
Barley—		
England	1,808,408 acres, at 35 bushels . . .	63,294,280
Wales	129,856 acres, at 29 bushels . . .	3,765,824
	<hr/>	<hr/>
		67,060,104
Deduct seed (3 bushels per acre)	. . . . .	5,814,792
		<hr/>
		61,245,312 at 4s. per bushel . . .
		12,249,062
Oats—		
England	1,620,264 acres at 44 bushels . . .	71,291,616
Wales	249,204 acres at 35 bushels . . .	8,722,140
	<hr/>	<hr/>
		80,013,756
Deduct seed (4 bushels per acre)	. . . . .	7,477,872
		<hr/>
		72,535,884 at 2s. 8d. per bushel . . .
		9,670,195
Beans, peas, and rye—	692,000 acres, at £7 per acre . . .	4,844,000
Straw used for feeding cattle, or sold, from 6,400,000 acres, at £1 per acre, the rest used on the farm as bedding and thatch . . .		6,400,000
Turnips	1,542,612 acres, at £6 per acre . . .	9,255,672

Potatoes	401,000 acres, at £12 per acre	4,812,000
Mangolds	302,069 acres, at £ 9 per acre	2,934,541
Carrots	12,080 acres, at £10 per acre	120,800
Vetches, trefoilium, etc.	389,000 acres, at £ 5 per acre	1,945,000
Clover, sainfoin, and } rotation grasses	1,755,000 acres for hay, £5 per acre	8,775,000
	1,100,000 acres not for hay, £2 per acre	2,200,000
Permanent pasture }	4,523,000 acres for hay, £4 10s. per acre	18,103,500
	10,060,301 acres not for hay, £2 10s. per acre	25,150,775
Hops, flax, etc.	71,000 acres, computed at	2,000,000
Feed on	8,000,000 acres waste land, 3s. per acre	1,200,000
Orchards, market gardens, etc., about	246,000 acres, £20 per acre	4,920,000

129,463,330

Deduct for feed of work horses used solely in agriculture,
847,592, at £20 per horse per annum 16,951,840

112,511,490

To this must be added from other sources 6,500,000

Which gives a total product of £119,000,000

From this gross product £119,000,000

Are to be deducted first, the following burdens:

Local rates applying exclusively to agricultural
land in England and Wales, including edu-
cation rate, whether it be levied by volun-
tary rate or otherwise

£7,000,000

Tithes 4,000,000

Land tax, redeemed and unredeemed 1,700,000

Income tax, schedule B, deducting abatements,
say 480,000

Legacy, succession, and probate duties affecting
agricultural incomes 900,000

Stamps on deeds affecting agricultural incomes 500,000

£14,580,000

2. Labor of 870,000 agricultural laborers, not
counting 40,000 women, averaging 15s. a
week 34,700,000

3. Incomes from the value of land, according
to schedule A, of the income tax 43,000,000

92,293,000

Leaving the farmer's income £27,000,000

besides what means of support he derives directly from the farm for himself
and family.

From this sum £4,000,000 must come off for manure purchased,
besides all outlays for repairs, living, etc., while £43,000,000 go
to the small number of landholders. This showing is a plain but
unanswerable argument against the possibility of maintaining the
English land system any longer. With all the love of the British
people for the show business, and their willingness to pay a big
round sum for the privilege of possessing a great titled nobility,

the price they pay annually is rather in excess of the value of this rare piece of archeological curiosity. The current of undisturbed competitive forces is all drifting toward the interest of the producing classes. The free access of foreign-grown food into Great Britain, through the means produced by modern invention, must necessarily lead to the distribution of the income of class A, for the benefit of the farmer and the agricultural laborer. The competitive forces of the near time are so severe, that not more than one profit can maintain where formerly two and three were charged on the product.

That the influences referred to, which the outside world exercises upon prices, cannot be guaranteed against by taxation and protection for any long period, can be shown by my second example, that of the woollen industry in the United States.

Here we had a system of protective taxation spun out to the finest point by all parties interested in the production of wool and in the manufacture of woollens; yet there is no industry in the country so completely disorganized and disrupted as this dearest of all our nurslings. There were twenty years of the full application of the artificial device. But what are the results? The infant is absolutely confined to the nursery, while foreign manufactures are brought here, increasing in value and bulk every year. The price-making factor operates so powerfully in Australian wools that wools outside of the United States have become so much cheaper than our wools that the fabrics made of foreign wools in foreign countries can be landed cheaper, duty paid, in this country than we can make them here. In consequence, not only American woollens but American wools have been becoming a drug in our markets, all because the sun and the soil and other conditions are more favorable to sheep-farming in Australia and the Plata country than in the United States.

A clear understanding of the nature and influence of the mentioned causes on prices must make it apparent that those nations are most favored in the exchanges of the world who give these influences fullest consideration. A nation who would make every one of the named subdivisions subservient to the great idea that every burden on any of them is a burden upon the whole, and principally upon the laborer who has to carry them all, would be

the first to reap the fruits of unexampled prosperity of all its individual members. Every commodity offered for exchange contains all the elements of prices. Every price-making element is contained in the smallest unit as well as in the whole quantity of national production. Wherever people are oppressed, it is through the uneven distribution of burdens on either one or the other or on all the price-making elements, and inquiring into their bearing upon prices must therefore be the first task of political economy, which above all must be one of the exact sciences or nothing.

CHAPTER XII.

THE TRUE VALUE OF OUR ANNUAL PRODUCTION—THE SHARE THE DIFFERENT CLASSES HAVE IN ITS DISTRIBUTIVE VALUE.

THE question may be raised : What is the possible limit of the earning capacity of the individual, if all employed in useful and gainful labor were remunerated alike in money of the day, upon the basis of valuation and productiveness of the year 1880 ? To arrive at a clear understanding upon this, is the more important, in view of the vague estimates upon which so much of the criticism of the day is based, and from which so much agitation is evolved.

The estimates vary so widely, from \$500 to \$2,000 per capita of those employed in productive enterprises, that it is well to establish a correct, scientific basis of earnings. No country is better equipped to give full answer to an inquiry of this sort than the United States. No country possesses so complete a system of census enumeration of necessary data to this end as the United States. It is true much may be desired yet, to supply greater correctness, but the lines covered are the ones necessary for our inquiry, and are covered by our government only. England's census does not give valuations of earnings or production. Complete as the Board of Trade reports are in other directions, they do not cover any thing pertaining to this column of national statistics.

Germany's national statistics are of recent growth, and are less complete than the British. France has at various times undertaken government inquiries by commissioners appointed to that end, and gives us in general outlines enough to make comparisons, though in classification and fulness much is wanted to bring the information up to the work of the United States. We have introduced a system of inquiry which, in parallel lines of decades, brings facts and figures to bear upon the situation, which, rightly

understood and cleared from dross, ought not to leave room for much doubt or vagueness in the unit of earnings per capita of those occupied in useful occupations, or of the total of the earnings of the nation.

To arrive at the per-capita share, we have to establish first the sum-total of national earnings. This we can do by taking the different divisions of census compilations. In adding them up, taking each as given, many commit the grave error to use the same figures two and three times over and again. Freed from all repetition of the same items, we have the following data as a basis :

(1) *Agriculture*.—The census figures give “estimated value of all farm productions (sold, consumed, or on hand,) for 1879” as \$2,213,402,564.

Mr. J. R. Dodge, the “Statistician of the Department of Agriculture, and Special Agent of the Census for the Collection of Statistics in Regard to Agriculture,” is, however, not satisfied with this estimate, which, by a tabulated statement, he raises to \$3,726,331,422, farm value. I do not wish to enter very closely into the scrutiny of the items. The difference, however, is so beyond all possibility, if the census estimates are to be considered of any value whatsoever, that a few critical side glances are important.

First, as to valuing the produce. I will show the excessiveness by a few examples. By placing side by side the valuation which, according to Mr. Dodge, is the value on the farm, and the average export price for the year, given by the Bureau of Statistics, which includes all the transportation expense from the farm to the seaboard, all the charges and profits of middlemen, storehousing, etc., we shall see at once the unreliability of these “official figures.” The humorous side of it is apparent, when we state that Mr. Nimmo, the late chief of the Bureau of Statistics, fully endorses the estimate of Mr. Dodge, while at the same time he gives to the public his official statement of the average *Export Prices of Domestic Merchandise*.

1879.	Farm value, according to Mr. Dodge and Mr. Nimmo.	Export price, according to Mr. Nimmo.
Wheat, per bushel	\$0.951	\$1.068
Indian corn, per bushel . . . .	.396	.471
Oats, per bushel . . . .	.36	.297
Rye, " . . . .	.756	.646
Cotton, per lb. . . . .	.098	.099
Wool, " . . . .	.28	.29
Tobacco " . . . .	.085	.078

I have selected for this comparison the most important of our agricultural products, which give food and raiment to our people, and besides this furnish the bulk of our exports. Fancy the happy position of our farmers if their product were not alone shipped to the farthest home market free of all charges of transportation, but that every middleman and his assistants, the banker and merchant, were all engaged in a sort of benefit society to the agricultural population, and to that end not alone throw in all their labor free of charge, but besides give him, out of some unexplained fund, a bonus above the export price as below, all for the privilege of being permitted to help "building up the country," as in these items :

Excess of farm price over export price, according to Dodge and Nimmo.

Oats, per bushel	\$0.063
Rye, " . . . . .	.116
Tobacco, per lb. . . . .	.007

Excess of export price over farm price, as per Dodge and Nimmo.

Wheat, per bushel	\$0.117
Indian corn, per bushel . . . . .	.075
Cotton, per lb. . . . .	.001
Wool " . . . . .	.01

Or imagine the nearness of the millennium to our rural friends, if their wheat could be brought from Dakotah or Illinois to New York and put on board the steamer, free of all other charges, for $11\frac{7}{10}$ cents, and Indian corn for $7\frac{1}{2}$ cents a bushel, and receive the balance in cash.

Wool, as is well known, in the condition in which we market it would in 1879, averaging the different grades, not have brought

28 cents in New York ; far less in the Western States and Territories. The whole concoction is so absurd that it surely would not have been produced had it not been to serve a political end then in view, which, fortunately for the country, was not reached. I have to scrutinize the figures, however, as they have been made the basis of calculations of wealth and incomes by economists of national reputation, who might have been expected to throw more critical acumen on this matter. Unless the foundation of our estimates of wealth-creation is correct, all our superstructures will be as built on sand.

An item of the table of Mr. Dodge, introduced to swell his total to \$3,700,000,000, is meat production on farms—\$800,000,000. We have to strike out the most of it. The feed of cattle, of hogs, etc., is raised on the farm, and counted as farm produce. We cannot count it twice, first as root crops, hay, and corn, and then again as meat.

It has been doubted by writers of note and experience on agriculture whether meat-raising on farms is any more profitable than the raising of the feed. To this, however, must be brought in remembrance, that we, at least, could not obtain the price of feed or of other agricultural produce we get now, were it not for the prodigious quantities we consume in stock-raising. But this is the whole advantage our farmers gain from our great meat production. Nothing more. They cannot sell their corn, which has been fed, nor count both as profit after one has been expended on the other. All the extra profit which can be considered is that derived from stock fed by grazing, which is not counted in the enumeration of annual produce, and I believe butter and cheese production fully compensates for that, and the annual increase and betterment of stocks.

This latter item, however, would be more than covered by \$200,000,000. Farm produce consumed at home and other small crops, perhaps overlooked in the census estimate, might be taken at \$300,000,000, to my mind a liberal estimate, which \$500,000,000, added to the \$2,200,000,000 of the Census Bureau, would be the total possible extent to which we could stretch the figures of the value of our farming products. From our examination of the valuation, etc., we should judge the estimate of the Census Bureau

not to be much below the mark ; but not to appear over-sceptical,
I will allow for agriculture

\$2,700,000,000

To this we must add :

(2) The annual product of <i>meat and wool produced on ranches</i> <i>and the product of fisheries</i>	80,000,000
(3) <i>Mining production</i>	200,000,000
(4) <i>Product of forestry</i>	400,000,000
(5) <i>Gas and petroleum production</i>	40,000,000
(6) <i>Manufacturing</i>	2,000,000,000

Which gives a grand total of \$5,420,000,000

Manufactures are usually taken from the census reports as representing \$5,300,000,000. But we have here a recapitulation of the cost of materials over and over again, and an addition of the same items frequently three and four times, and call it national production. I hold that the whole material cost has to be deducted from the account to the extent of \$3,396,823,549, leaving about \$2,000,000,000 to represent the cost of manufacture. This includes the labor cost, profit, rent of buildings, freight charges to and from the mill, superintendence, interest on loans, and all the incidental charges on manufactures. The cumulative nature of these enumerations may be illustrated by a few examples :

FIRST EXAMPLE.—*Ready-made Clothing.*

Material counted (1) in clothing.

“ “ (2) in cloth.

“ “ (3) as wool or cotton.

SECOND EXAMPLE.—*Machinery.*

Material counted (1) in machine.

“ “ (2) in bar iron or steel.

“ “ (3) in pig-iron.

“ “ (4) as ore or coal.

THIRD EXAMPLE.—*Crackers.*

Material counted (1) in crackers.

“ “ (2) in flour.

“ “ (3) as corn.

PROOF OF MULTIPLICATION.—*First Example.*

	Census product represented by sales price.	Material.	Labor.	Expenses and profit.
Coat	\$5	\$3	\$1	\$1
Material = cloth	3	1	1	1
Material = wool	1		2	2
	\$9			= \$5

Now, for a thing whose final market price charged by the producer is \$5, the census enumerates \$9 worth of products by this system of progressive arithmetic. The only legitimate material cost is the last item, wool or cotton, and the labor and other expense attending each stage of manufacture, as will be seen from the above arithmetical proof of a correct price compilation. The wool and cotton item has been counted once before under the heading of agriculture. It ought not to reappear under manufacture. It stands, then, that only columns three and four are legitimate counters in the aggregation of values by manufacturing industries.

Second Example.

	Census product.	Material.	Labor.	Expenses and profit.
Machine	\$7	\$5	\$1	\$1
Bar iron and steel	5	3	1	1
Pig-iron	3	1	1	1
Ore and coal . . .	1		3	3
	\$16			= \$7

Here our product in the census grows up to 16 by means of cumulation, while in reality it is sold by the manufacturer for \$7. Ore and coal, and labor of manufacture, constitute the only legitimate price elements. Ore and coal, having been counted under the heading of mining, ought to be taken out entirely. Nothing remains then but \$6 to represent manufacturing in an item which is now counted as \$16 in our manufacturing industries.

I need not go into details about my third example. Everybody

ought to know that in flouring grain is the main item, and, adding a very slight advance for labor and profit, constitutes the cost of flour. Yet our census counts up \$505,000,000 as flouring, giving \$64,000,000 as the addition to \$441,000,000 of material or grain, all of which has been counted in agriculture.

I have pursued the same analysis in the other items, from which I have deducted all materials, which were contributed by manufacturing industries, where they had been enumerated before.

To this annual product of \$5,420,000,000 ought to be added transportation expense. But as this is usually paid by the receiver and charged upon his goods in the gross profits which he gets from his customers, it would be a multiplication, if I added them here. A great part of the annual product passes from the producer directly through the hands of the retail merchant into the hands of the consumer. But the jobber has also a large share in the distribution of products. If I allow, therefore, two mediums, the jobber and the retailer, to handle the *whole* annual product, as middlemen between producer and consumer, I believe, I shall more than cover all possible distributive expense laid on the product. As we have already the producer's profit in all of the above items and a great share of other charges, such as transportation, etc., in the item of manufacture, it will be seen that we shall have three profit charges, which is probably all the surcharge which can properly be assumed as constituting the distributive value. The jobber's average profit at 15 per cent. and the retailer's average gross profit at 20 per cent., will probably be admitted to cover the total of the possible cost of distribution from the producer to the consumer.

We will then have a product of	.	.	.	.	.	.	\$5,420,000,000
Wholesale profit 15 per cent.	.	.	.	.	.	.	813,000,000
Retailers' " 20 "	.	.	.	.	.	.	1,247,000,000
Add for labor of buildings, dwellings, railroads, etc.	.	.	.	.	.	.	200,000,000

And we have \$7,680,000,000

as the final value of our annual production, paid by the consumer. From this gross product draw their sustenance, according to the census, in round numbers, 17,000,000 persons engaged in useful occupations. Dividing 17 into 7,680 we have \$452 as the share of each worker male or female, if each one had an equal share,

taken from the values of the census year, a year of high prices and full employment. As there are 5,000,000 engaged in ministerial work, professional and other services, deriving their incomes from the 12,000,000 engaged in price-making occupations, the unit would be 7.680 divided by 12, or \$640. Incomes, however, are very unevenly distributed.

Let us examine the various groups who divide this income.

GROUP 1.—*Agriculture.*

Agriculture employs 3,320,000 laborers, to whom, with their families (each group represents three eaters, of whom only one can be counted as an earner, according to the above census figure), we allot \$250 per annum. The average monthly money wages I count as \$12, or \$144 per annum, and for rations, or board, etc. \$106, making a total of \$250.

Multiplied by 3,320,000 this gives us	\$830,000,000
Farmers, gardeners, etc., 4,350,000 at \$450	1,957,000,000
Or	<u>\$2,787,000,000</u>

which would about consume the total representing the farm value of agricultural products, including ranch meat and fisheries. The farmer has to pay out of this share his township and local taxes, as well as the improvements on his farms, and having besides a larger family than his hired help, to support (the latter mostly being unmarried), it must be seen from this, that the majority of farmers are not in much better condition than the farm laborer. The greater incomes of better situated farmers necessarily reduce the share of the smaller farmers in our average.

GROUP 2.—*Manufacturing,*

Gas, petroleum, and mining production, \$2,240,000,000, employs, as per census enumeration, 3,000,000 persons. The annual income of each is, according to the census, about \$350, representing a total of \$1,050,000,000 with about 250,000 establishments to share in \$1,190,000,000 or \$4.760 each of apparent profit. It is, however, well known that gross profits and real profits are so far apart that the latter is frequently eaten up by expenses of all sorts, though the former make a formidable item in the gross balance sheet.

For details on this subject I refer to the report of Carroll D. Wright, of 1883, and his tables on profit and earnings. 2,440 establishments were examined, and the number of minus profits, *i. e.*, loss, where a respectable gross profit is shown on the debit page, is remarkable, though not astonishing to men engaged in active business.

Out of this gross profit a great number of earners are paid, who are classified in Group 3, Trade and Transportation, such as laborers, book-keepers, clerks, salesmen, etc., engaged by manufacturers and paid out of their gross profits.

This covers our \$2,240,000,000 of Group 2.

Forestry, \$400,000,000, I have taken from Mr. Nimmo's and Mr. Dodge's estimate. Very excessive indeed. The material of our lumbering establishments is not quite \$200,000,000. Other products of our forests are not of sufficient value to stretch this sum in any possible way to the above sum. But we need not be too close, in consideration of the many items we have already been compelled to deduct from the great columns of wealth, produced by addition and multiplication, and we can proceed to

GROUP 3.—*Trade and Transportation.*

This swallows up our \$2,060,000,000, which I have set down as the gross profit of retail and wholesale traffic. Out of this gross sum all the railroad charges for freight, rent, clerk-hire, etc., contained in Class 3 have to be paid. This class contains 1,810,000 persons divided as follows :

Draymen and railroad employés .	480,000	at \$500 a year or \$10 a week .	=	\$240,000,000
Porters, etc.	120,000	at \$500 a year	=	60,000,000
Sailors	60,000	500	=	30,000,000
Clerks and book-keepers . . .	530,000	600	=	318,000,000
Peddlers	50,000	600	=	30,000,000
Saloon-keepers	70,000	700	=	50,000,000
Traders and Dealers .	460,000			
Bankers and Brokers .	33,000			
	<hr/>	493,000	2,700	= 1,330,000,000
		<hr/>		<hr/>
		1,800,000		= \$2,058,000,000

The amount left over for buildings, etc., is distributed between mechanics, masons, bricklayers, carpenters, builders, etc., contained in Class 3, which has 3,800,000 persons, while we have

only 3,000,000 as directly engaged in manufacture and mining. Many of these, however, draw their subsistence from all the four groups of employments footed up in the census of occupations.

GROUP 4.—*Professional and Personal Service.*

4,074,238, as also of Class 3, bakers, blacksmiths, boot- and shoe-makers, tailors, seamstresses, dress-makers, butchers, cabinet-makers, carpenters, machinists, painters and varnishers, plumbers, etc., not engaged in manufacturing, and consequently not enumerated above in Class 2,—in all nearly 5,000,000 persons have to draw their earnings from the other three classes of 12,000,000 people directly engaged in the price-making employments. To the support of 1,075,000 domestic servants the wealthier classes only contribute, while 3,000,000 to 4,000,000 of other employments draw their support from all classes alike. Government employés, soldiers, teachers, and all those supported by taxation are, as well, deriving their incomes from the poor as from the rich.

We cannot follow up this inquiry into all the details which it would be necessary to do, if it were my object to show what each individual's, or groups of individuals', income is from the general product, a task anyhow impossible, as so much of one man's income contributes to that of another. My object is to draw an outline of the possible national income, its distributive value, and to show the share each of the price-building elements—not those employed in turn by these, but those directly engaged—have in the distribution of products. Not only have they to support from their incomes all professionals, etc., but the taxes supporting the government of the nation, the State, and township,—all have to be paid from the gross sum stated. These taxes amount to \$600,000,000 annually, and are therefore (being mostly indirect taxes laid on consumption or real estate, meaning rent) a direct tax on every dollar consumed. Taking the annual saving, consisting of increase in buildings, railroads, improvement in lands, and what is carried over from year to year in movables, beyond the stock of the previous year, to be \$700,000,000, or 10 per cent. then our consumption is round \$7,000,000,000, and the tax thereon represents a clean 8 per cent. on every dollar consumed.

The savings not being taxed, and they fall mostly to the rich,

it follows that the working classes, eating up most of their income, find it more to their interest to scrutinize their government very closely than the richer classes. The reverse, of course, is usually observed as a rule in society. But the reversion of natural conditions and philosophical truth has from time immemorial been one of the clever pieces of legerdemain by which the poorer classes have been made to carry the heaviest burdens.

Taking the annual income of the working classes to be in round numbers \$350 (including all incomes up to \$600, in our tabulation), we shall find each contributing \$29—out of his \$350—for purposes of general taxation, interest on public debts, etc. This is not yet taking into account the tax he has to pay on his subsistence of home-made articles, increased in price by virtue of our protective tariff, such as woollen goods and iron, and which we may, at times of low prices, set down as \$20 for each bread-earner, representing always three persons. In times of high prices this amount is greatly enhanced. The importance to the working-man of a low rate of taxation and of cheap prices cannot be too earnestly impressed.

Having outlined a more solid basis than we had heretofore, on which earnings and wealth creation can be computed, we can proceed now to the consideration of more detailed conditions of social physiology, inasmuch as I intend to show by what agencies the lower level of earnings, expressed now by \$350, of the working classes, is gradually made to approach the possible limit, now expressed in our figures of \$640. The latter expresses all that is produced, all that is divisible, all the distributive value of production contributed by the price-making elements of society.

CHAPTER XIII.

THE WAGES QUESTION.

LIKE the scarlet thread through the cordage of the British navy, the wages question runs through every problem of modern economy. The essence of discussion among free-traders and protectionists is the greater amount of money earnings of the working classes under their respective leaderships. I doubt not that, to-day at least, the defenders of both systems are sincere in their belief that their doctrine is conducive to the greater comfort, the higher earnings, and better living of the working classes. I doubt not that both are sincere in their declaration that the advancement of the working classes is the main issue in the war for the propagation of their idea. No other issue would be worth fighting for. No one could do successful fighting for any other cause than that of the elevation, the advancement, of the working classes. It is the tendency of the age. It is in the air we breathe, the thought we think ; consciously and unconsciously every thing tends towards this goal. Unconsciously, individually and collectively, we are all working in this age of reason and machinery toward this one great humanitarian aim : the liberation from misery and want, the creation of a new civilization, where the enjoyment of the comforts of life, the intellectual blessings of genius, all the great gifts of nature, will come within the reach of the poor disinherited, who have vainly striven for thousands and thousands of years. I know that in this I am greatly at variance with most of our " friends of the laboring man," and I shall take great pains to prove my position by an array of facts, which will be recognized as conclusive, in establishing :

That the results of modern development in the industrial world have been :

1. An increasing productiveness of labor.
2. A reduction of the proportion which labor bears to material in the price of any given product.

3. To cheapen thereby the cost of the product, and consequently to increase its accessibility to the masses.

4. To increase largely the money earnings of the working classes ; and

5. To reduce the hours of labor.

All these postulates have developed in a progressing ratio during the last hundred years, and if we have lost sight of these facts or were led to a contrary belief, it is only to be ascribed to this, that most investigators are satisfied in reviewing a period of brief duration. Ten, often five years, suffice to build theories upon, which would not stand for a moment were the period of observation of a wider range. We live in our generation, but mankind lives on. But even the life of a generation is marked by economic waves of longer or shorter range, of greater or smaller undulation. It would lead to wrong impressions were we to judge of a whole nation's life and welfare simply from the narrow view which the low descending wave permits to the observer, himself wrapped in its declining sweep. We have to take a broader view and find out whether we have not gradually advanced, even when we believed we had declined.

I.—INCREASING PRODUCTIVENESS OF LABOR.

To what extent the productiveness of labor can be improved, if supported by rational and scientific methods, can best be illustrated by a brief glance at the development of agriculture in modern times. Agriculture being the most rudimentary of all industries, has of course always been singled out for the full display of "natural laws." No "law" has ever been such a godsend to the theorizing mind as the Malthusian law. It is the most perfect lullaby wherewith to sing to sleep the discontent of the poor disinherited agricultural laborer of England—in fact, the laborers of all countries. The population having the tendency to increase in geometrical proportion, while the products of the land, the land being limited, increases only in an arithmetical progression, of course there is always a pressure of population upon subsistence. Nothing could be plainer than this. This being a law of nature, the next law of nature to evolve from this is preordained poverty and want. This is equally plain. No contradiction is

possible. No use trying to fight and rebel against a law of nature.

It would be stale to point out that, under the free play of inter-communication with all countries lying inside the most extended peripheric lines from a given centre, this law of nature could not show its force until all arable soils of the world had come under its sway. But I wish to point out the most important disturbance which this "law" has to undergo from the increasing productiveness of the soil itself of the land to which this "law" was intended to apply. Thorold Rogers, by his very searching investigation, has been enabled to show that in the fourteenth century eight bushels was the common average crop of an acre of wheat, from two bushels of seed-corn. This scanty supply necessitated that the sparse population, of two and one half millions, brought all the arable land under cultivation. "Lands now retain unmistakable traces of ancient agriculture, which have not borne grain crops in the memory of man. The exigencies of mediæval society left little ground which could be available for cultivation for park and pleasure" ("History of Agriculture and Prices in the Fourteenth Century"). This continued to be the case nearly up to the beginning of the eighteenth century. Then, under the introduction of rotating crops, new vegetables, root crops, etc., and a better system of husbandry, the proceeds of national husbandry rose to such an extent that at Edward Young's time the population of 7,500,000 had enough and to spare for export. The product of an acre of wheat had risen to twenty bushels. Now, within one hundred years from the time of this great traveller and writer on agriculture, the proceeds of an acre of wheat are nearly thirty bushels—29.85 for England and Wales in 1884; from the same soil more than twice as large a population finds a more bountiful subsistence than one hundred years ago.

1884.	England and Wales. Home production. Cwts. of 112 lbs.	United Kingdom. Importation. Cwts. of 112 lbs.
Cereals, beans, peas, etc.	112 million.	128 million.
Potatoes	56 "	2½ "
	168 "	130½ "

A population of 27,000,000 has to feed on this supply, foreign and home-grown. The imports are for the United Kingdom of Great Britain and Ireland, and whatever is imported for the consumption of Scotland and Ireland has, therefore, to be deducted from the above total of importations. Vegetables and kitchen-gardening are not included, and it will, therefore, be seen that it is an easy estimate to say that fully 16,000,000 could be supported on the soil of England to-day against not 8,000,000 one hundred years ago, and 2,500,000 five hundred years ago. I have little doubt that under a thorough reform of the land laws of Great Britain and Ireland, and a granting of home rule to the latter kingdom, the United Kingdom could to-day largely increase its productiveness, and could obtain by far the greatest part of its subsistence from its own soil, not speaking of the unknown quantity of increasing productiveness.

Nor are we confined to English agricultural history alone in this proof. France offers the same example.

Under Henry IV., in the beginning of the seventeenth century, France contained about 12,000,000 of inhabitants. The average yield per hectare was eight hectolitres, or a little over nine bushels, to the acre, including seed-corn. In the beginning of the eighteenth century, in the latter days of "le Roi Soleil," Louis XIV., France had a population of 19,000,000, and Moreau des Jonnés ("État Économique et Social de la France," 1589 to 1715), in reviewing the figures of Vauban's tables, proves that the production of cereals per hectare had not increased at all within one hundred years. The average proceeds were nine bushels to the acre. Nearly every third year was a year of scarcity and suffering. It is calculated that in the seventy-five years of the Sun King's time there were twenty-eight years of scarcity and famine. The misery of the people was extreme. Myriads of beggars and starving people, driven from their homes by the merciless tax-gatherer, were wandering through the lands. At the present time the average product per acre of wheat is $15\frac{1}{2}$ bushels, or about 66 $\frac{2}{3}$ per cent. in excess of the period mentioned above. Her population is 38,000,000, or just double what it was in Vauban's time. Her cereal production of all kinds in 1700 was 93,000,000 hectolitres or 263,000,000 bushels; in 1880 it was 284,000,000 hecto-

litres or 804,000,000 bushels (not counting at all her dairying, vegetable culture, and kitchen-gardening, wine-growing, etc., in which her average exports amount to more in value than her average imports in grain), against an import of grain and flour averaging for the ten years from 1871 to 1880 50,000,000 bushels a year. It will be seen from this that if France concentrated all her agricultural energies on the food supply of her own people, she could support with ease fully twice as many people, upon a reduced territory, as she found hard work to keep above the starvation point one hundred and fifty years ago.

If we divide her production per capita, then in 1700 her 19,000,000 had $13\frac{1}{2}$ bushels of grain each, while in 1880 the share of each of her 38,000,000 of inhabitants was $21\frac{3}{5}$ bushels.

From all of which it would appear that it is not well to be bound to a theory or a so-called natural law. It is better to look to facts than to remain closed up in our rent theories and wage-fund laws, etc. For while Dame Theory is knitting her strait-jackets and leading-strings, new-grown facts are springing up all around her, and in the vigorous exercise of their youthful powers are apt to destroy the most carefully guarded flower-beds of the old lady.

Another law, boldly taken hold of by writers who are very outspoken in their condemnation of the Malthusian theory, is that of

DIMINISHING RETURNS.

Closely examined, the two look so much alike that they might be taken as twin brothers. Of course if man were to be considered in the same light as a yoke of working oxen, or a hand turning the sod with a stick, as our remote ancestors have done, we would be justified in speaking of diminishing returns. If the soil is left to itself and its own recuperative power, if it is treated with the careless indifference in which our Western wheat-growers extract all that is in the soil, without thinking of returning what is taken from it, to keep up or increase its fecundity, then of course we may speak of diminishing returns. Man, however, is a wonderful being. When hard pressed by necessity, *and left free to exercise his faculties*, little doubt needs be entertained, that he will even turn the niggardliness of nature into a prize from the lottery of life.

How true this is can be seen from the example of Holland. There we have a soil almost conquered from the sands of an ever-aggressive sea by incessant toil and watchfulness of man. The soil has been worked from generation to generation with a loving care, which can only be understood by those who have been reared among the small farmers of Europe, the tillers and owners of their land. Now this little stretch of land, cultivated since times immemorial, of the extent of the State of Massachusetts, raises food enough for a population of four millions of people and has enough to spare for export. Her net imports, in agricultural produce, consist of cereals to the amount of 50,000,000 florins, against exports of 75,000,000 florins in garden and dairy produce animals, etc., as in 1880. True, if she had to raise all her bread-crops on her own soil, she might not do quite so well. But by a free exchange of her surplus in such produce in which she has acquired certain facilities, against the produce of more juvenile soils, requiring less labor and outlay, the whole population is supplied with food over and above their needs. If the intensity of farming, ruling in the Low Countries, made possible by peasant ownership alone, were applied to the far more fertile soils of England, Wales, and Ireland, not speaking at all of Scotland, then a population of 28 to 30 millions could be easily supplied from her own fields and gardens, while now nearly one half of her needs has to be brought from abroad. The same system of farming, adopted in the United States, would feed 1,000 millions. We do not hear that the Dutch have no moving room. We do not hear as much of over-population, as in far less densely settled countries. We do not hear very much of poor-rates and agricultural paupers, but quite on the contrary of wealth and comfort. Emile de Laveleye says on this subject, in "Systems of Land Tenures in Various Countries":

"The farmers of Holland lead a comfortable, well-to-do, and cheerful life. They are well-housed and excellently clothed. They have china-ware and plate on their side-boards, tons of gold at their notaries, public securities in their safes, and in their stables excellent horses. Their wives are bedecked with splendid corals and gold. They do not work themselves to death. On the ice in winter, at the Kermes in summer, they enjoy themselves with the zest of men whose minds are free from care.

"The Belgian farmer is neither as rich as his Dutch neighbor, nor can he enjoy himself in the same way.

"One reason is, that in Holland the townspeople have at all times invested their savings in public securities, and generally left landed property alone, which has thus remained entirely in the hands of the peasants. In Belgium, on the other hand, the nobility have retained large landed property, and capitalists have eagerly bought estates. Hence a good many of the peasants have become mere tenants.

"To meet with the ideal of rural life, you must look for it in Groningen or in Upper Bavaria."

Per contra on farming results in Belgium under opposite conditions of tenure, we copy the following picture from the pen of the same authority :

"In my work on the rural economy of Belgium, I made some reflections on the indifferent condition of the Flemish peasants, from which inferences adverse to peasant proprietorship have been drawn. These conclusions are erroneous. The evil arises from the fact that there are too few small proprietors and too many small tenants among the peasantry of Flanders.

"If you want to find a district in Belgium where the peasants are well-off, you must go to Lower Luxembourg. There the land is divided into a multitude of peasant properties, almost the whole of which are cultivated by the owners themselves. Each of these manages his own farm, and under the shadow of his fruit-trees enjoys in security what he earns by the sweat of his brow. This is a kind of rural opulence, due not to the possession of large capital, but to the abundance of rural produce. No one is rich enough to live in idleness ; none so poor as to suffer from want. The peasant there is also more enlightened than in Flanders, and more independent. The situation is nearly the same as that of the Canton of Grisons in Switzerland.

"A few figures will indicate the contrast between Flanders and Luxembourg ; in each of the two provinces I shall select a normal district.

"*Flanders*.—District of St. Nicholas, in the Pays de Waes.

"Farm laborer's wages, 1 franc 10 centimes per day.

"Area of land worked $\left\{ \begin{array}{l} \text{by owners, } 6,556 \text{ hectares.} \\ \text{by tenants, } 31,689 \end{array} \right.$ "

"*Luxembourg*.—Bouillon and Paliseal district. Farm laborer's wages, 2 francs per day.

"Area of land worked $\left\{ \begin{array}{l} \text{by owners, 10,699 hectares.} \\ \text{by tenants, 1,563} \end{array} \right.$ "

"Thus, in lower Luxembourg, the laborer's wages are double what they are in Flanders, although most articles of food, especially meat and potatoes, are cheaper in the former province."

But not only are farm laborer's wages influenced by the tenure of land, but all other wages seem to be higher or lower, according to the predominance of peasant proprietorship on the one hand, or tenant farming and the prevalence of large estates on the other hand. The German census figures recently published bring a tabulation of German landholdings in the different states and provinces of the empire. If we compare this with the general average of wages ruling in the same parts, as prepared with great care by the Statistical Society, Concordia, we can see at once that there is substantial proof for this assertion. Not to weary the reader with a great display of figures, I shall only express the percentage which large holdings, comprising 100 hectares or 247 acres and above, bear to the general acreage of farming land, the number of such holdings, and the general average of weekly wages :

TABLE OF LARGE LANDHOLDINGS IN GERMANY AND OF WEEKLY WAGE-RATES.

States and provinces of the empire.	No. of holders of 100 hect's and above.	Average holdings of each of this class in hectares.	Percentage of large hold'gs to the whole acreage.	Average rate of <i>weekly</i> wages of working men employed in trades and factories.
Silesia	2,880	349	34.5	\$2.32
East-Prussia	3,199	292	33.6	2.85
Posen	2,724	400	55.3	2.90
Pomerania	2,876	390	57.4	2.63
Brandenburg	2,202	370	36.3	2.90
Saxony, kingdom . . .	758	184	14.1	2.74
Anhalt	174	395	35.0	2.93
Saxony, Prussia . . .	1,573	292	27.0	3.04
Hesse-Na-sau	287	170	6.7	3.15
Braunschweig	165	242	17.9	3.23
Bavaria	594	163	2.3	3.22
Hanover	623	187	6.9	3.20
Baden	83	160	1.8	3.38
Alsace, Lorraine . . .	394	146	7.3	3.62
Württemberg	141	161	2.0	3.60
Westphalia	276	177	4.8	3.65
Rhenish Prussia . . .	246	146	2.7	3.70

2.—REDUCTION OF THE PROPORTION OF LABOR TO MATERIAL IN THE PRODUCT.

The great quantities of products of all kinds vainly seeking a market after brief periods of great, and, as it seems, normal activity, which phenomenon is commonly called over-production, shows that the forces which direct the distribution of products and wealth have not kept pace with the development of the productive power of civilized labor, helped by modern invention. This alone would be sufficient to show that labor is far more productive than ever before ; in other words, that it requires less labor than ever before to turn a given material into a given product ; or that the labor part in a given fabric has been a decreasing one. But as this proof may smack somewhat of the theorizing method, I will prove its correctness by historical facts.

No government has been so industrious, under all sorts of régimes, as the French in appointing commissions and reporting on French labor and production. The woollen industry in France received great animation through Colbert's care and attention. As a manufacturing industry it received a new start through the Minister in 1648. In 1669 he instituted an inquiry through the governors of provinces into the state of these industries. The report on the woollen industry shows that there were 60,440 workmen employed in the annual production of 670,540 pieces of cloth at 20 metres or 22 yards, valued at 3 francs the metre, or 60 a piece, equal to 40,000,000 francs, or 650 francs the annual product of each workingman. As the price of material and the profit of the master are included in this annual product per hand, the estimate based thereon is certainly very moderate, of :

Material 40 per cent. and labor 60 per cent.	This is allowing 25
per cent. for profit and expenses	150 francs
1 franc a day, or 19 cents, for wages of 300 days	300 "
Certainly a moderate rate, if we consider that the workingman had to be kept and fed out of this sum, including his family, if he had any, which leaves for raw material	
	200 "
	<hr/>
	650 "

In 1812 the production had increased to 370,000,000, whereof 160,000,000 was raw material, and 210,000,000 labor and profit and expenses, about half and half, which, giving only the material

cost and wages, brings the proportion to : Material, 57 per cent. and labor 43 per cent.

In 1850 Moreau de Jonnés, in an inquiry on the state of the French industries undertaken under his supervision, reports the following proportions in the woollen industries of that date :

Total production	.	.	.	.	.	.	413,000,000 fr.
Raw material	.	.	.	.	.	.	252,000,000 fr.
Labor and profit, etc.	.	.	.	.	.	.	163,000,000 fr.

of which latter item 51 per cent. goes to labor and 49 per cent. to profit and expense, which makes our count come for 1850 : Material, 75 per cent. ; labor, 25 per cent.

The commission appointed by the Corps Législatif of France in 1872 made its report through M. N. Ducarre, one of its members, and found about the same proportion of material and labor cost as was found by M. Moreau de Jonnés in 1850.

In 1869 and 1870, from a report of Consul Walker from statements made to the Chamber of Commerce, at Elboeuf, two mills, one making fancy and the other plain woollen cloth, had about this proportion : Material, \$203,000, or 68 per cent. ; labor, \$96,000, or 32 per cent.

But as Elboeuf makes fine woollen goods which require a greater share of labor, this percentage will represent the highest proportionate cost of labor in the woollen industries in France, which proportion would be largely reduced if the other branches, representing a lower labor cost in the production, would be brought in to bear their ratio.

The earnings of the working classes have been increased in French woollen industries in the same ratio that the labor cost has been reduced. I shall show hereafter the facts upon which this statement is based.

Our own woollen manufacture cannot be used to serve as an example, on account of the very violent fluctuations in the material price caused by tariff legislation, currency fluctuations, and other means of wealth-creating by statute. We may incidentally refer to our woollen industry in 1860, when we came nearest to a free raw material basis. Then our material cost was \$39,000,000, and labor counted \$10,000,000, or in percentages $79\frac{1}{2}$ to $20\frac{1}{2}$ —a lower labor cost than in any other country, which, however, may be partially

ascribed to a cheaper class of goods being the bulk of our production, and which require less labor.

In 1880 our wool prices were so much inflated by the "boom," that I should do little justice to this inquiry by reviewing figures of that year.

In cotton goods we are far more competent to judge, by comparing 1860 to 1880, the price of cotton being about the same at both periods.

	1860.	1880.
Materials	\$52,000,000	\$113,000,000
Labor	22,000,000	45,000,000
Proportion material and labor . .	70 x 30	72 $\frac{1}{2}$ x 27 $\frac{2}{3}$

All this is the direct labor cost only, and does not cover any general or other mill-expense account.

Taking our manufacturing production as a whole for each census year of the last four decades, the positions are as follows :

	Millions \$ Material.	Millions \$ Labor.	Proportion of material to labor.
1850	554	236	70 x 30
1860	1,030	379	74 $\frac{3}{4}$ x 25 $\frac{1}{4}$
1870	2,488	775	76 $\frac{1}{4}$ x 23 $\frac{3}{4}$
1880	3,396	948	78 x 22

We have here a regularly progressing reduction in labor cost and increasing quantity produced by labor.

Mr. Edward Atkinson, in a recent publication of a very ingeniously constructed chart, gives a very clear presentation of decreasing cost, of increasing earnings, and of decreasing hours, and of declining rate of profit in the cotton industries. Taking standard cotton-sheeting for his illustration, he shows that the production per hand was, in a particular mill :

In 1840	9,600 yds.
" 1880	28,032 "
and in 1883 to 1885	29,604 "

and in money value :

In 1840	\$868
" 1883	1,973
and in 1885	1,924

	In 1840.	1883.	1885.
Were spindles used . . .	12,500	30,824	35,720
And hands employed . . .	530	527	579
Or spindles per hand . . .	24	58	62

I may perhaps here recall a statement made in a previous chapter, that Germany's productiveness in the cotton industry is given as 2,700 spindles per 100 hands, or 27 per hand, and occupying therefore the position now, which was the standard of the New England mill more than forty years ago.

That increasing productiveness, meaning greater production, *i. e.*, more product to go around, consequently greater accessibility, in other words, cheapness, has been the result of modern civilized labor, cannot be disputed. That the labor part in any given product has been a decreasing one has been demonstrated, and cannot be a matter of further controversy. The proof that the United States have made greatest progress in this direction has been the subject-matter of these pages.

3.—THE CHEAPENING OF THE PRODUCT

has gone hand in hand with the decreasing labor part. The main causes leading to this have been pointed out in Chapter XI. I will give here a few additional examples of facts. A given product, alike in nature and quality at the different periods, is best to serve as a leading example.

Mr. Atkinson's figures of a certain brand of sheeting :

	1840.	1883.	1883-1885.
Price per yard . . . cents.	9.04	7.04	6.5

A decline of 28 per cent. within forty-five years in an article which, at both ends of the period, was manufactured by the same processes of mill labor.

For England I have no data at present. Leone Levi's recently published difference of price of cotton cloth in 1869 to 1883 is in-

admissible for comparison, as raw cotton in 1869 was 12.33*d.* in Liverpool, against 5.60*d.* in 1883.

While prices of pig-iron in England were ranging in times of peace a hundred years ago from £5 to £8 a ton (\$24 to \$38.50), and kept within this circle down to the time of 1836, the present price is ranging from 33*s.* to 55*s.*, or \$8 to \$12.50 a ton.

English pig-lead, which ruled a hundred years ago down to 1836 at £20 to £22 (I always exclude periods of war), taken from price quotations in Tooke's "History of Prices," is ruling now at £11.5.

British bar-iron, 1845 to 1850, £8, is 1885, £6.

In all these annotations I take pains to compare periods of like undisturbed conditions, where only regular influences were acting as price builders. The tendency has been right through to reduce prices by the play of mental forces, which nowhere were under fuller activity than in the United States, and nowhere were greater results achieved in reducing the labor cost and cheapening production, as shown in cottons and other fields of production, and illustrated heretofore by facts and comparisons.

4.—INCREASING EARNINGS OF THE WORKING CLASSES.

It is a common impression that all this great wealth-creating development has benefited only capital, or rather the holder of capital, and that the poor are getting but a small share. That the rich are getting richer, and the poor poorer, is repeated daily by unthinking minds. "Progress and poverty" has been stated only lately as being the Cain's brand upon the brow of our age. That we are far from having reached a satisfactory condition of society, that toil is not sufficiently remunerated, that speculation and monopolizing tendencies find too easy play and arrogate too much of the national product, through legislative connivance, I am too well aware. I have too frequently pointed to these anomalies, that I need to fear to be considered a panegyrist of our present condition. That, however, our age is the best in which man ever lived, is a matter beyond doubt. Of course I speak of Western civilization only, and, especially in this connection, of America.

The fact alone of the great productiveness of our age, the great

stores of grains, of dry goods, of all the many means of comfort which have to be consumed by the millions, which have to find a market among the working classes, if they are to be of use at all, is alone an unfailing sign of the great advantages which the working classes derive from the great abundance of commodities, which is the result of our recent development.

If there was ever an age worth living in, it is the present one. If there was ever an age in which a solid footing for *progress from poverty* was given, it is the present age. If there was ever a country in which the conditions are prepared for the highest attainable well-being of the working classes, it is America. The means are a hand, but it depends on the working classes to use them in the right direction. That this end cannot be reached by any systematized, ready-made doctrine, is too plain to those who have studied the development of the social organism. To those the latter is a living body. Its ills cannot be treated with Ready-Relief Pills. It is a sound organism, and a wise physician trusts more to the recuperative powers of the body, and to the removal from and of dangerous influences, than to drugging, cupping, or bleeding.

I am far from being an advocate of capitalism, pure and simple, or a great admirer of the Manchester school. If any reforms are to be undertaken in our body politic, however, they must before all be based upon a clear, unalloyed statement of facts, and I mean to give facts. I am not a believer in violent measures of relief. I believe that the quiet undercurrent in a free social organism is constantly moving in an upward direction. All that society or its representative, the State, has to do, is to remove obstacles placed in the way of free development of natural forces, and to guard the rights of the individual from aggression or spoliation.

Now, it is an undeniable fact that capital, unless invested in land or in very carefully selected securities, again based on land, is of a very fleeting, uncertain nature. An absolute creation of labor, as thought is a creation of the brain, its existence would cease inside of an average of two to three years if labor would cease in the work of its reproduction. This is, however, inconceivable as the stoppage of digestion in a healthy organism. Capital wastes away much more quickly than it is created, as soon

as labor is thrown out of full employment. This absolute result of non-activity is the secret, unconscious spring which moves capital to seek investment of some kind. This seeking of investment is nothing but an attempt to find some kind of labor which will be able to reproduce the capital, or, as people are in the habit of calling it, the money, put into any kind of an enterprise. Railroad-building, mill-building, wholesale killing (as we may call the government business of war-making, for whose payment government securities are issued)—all are enterprises of this kind, wherein capital finds a grave when they are found to have been unsuccessful. Labor, however, is employed to the full extent of the investment, or, to speak in homely terms, as long as the money lasts. If the machinery created is a full necessity, then reproduction of capital will go on; otherwise it will be considered a thing that was, and is no more. The more abundant capital, the smaller the share of profit, or interest, or dividend, whatever it may be called. This again proves the great competition of capital for labor which is constantly going on, unconsciously of course, and perhaps not recognized by these terms, but this is the true meaning. When work is abundant, then profits are high. Great activity at reproduction of capital. Then capital, perhaps, gets an undue share. But when the current moves backward, then *we victis*. Then we hear of our mining shares, Northern Pacific and West Shore bonds, Washington woollen mills, and all the stocks of iron and steel mills, etc.; then all these schemes tell the story of greed working its own destruction, or of labor being put into enterprise which did not pay. But even in paying, honest, well-organized enterprises, in the best-managed cotton-mills of the country, the tendency of the capital share in the process of production has been a progressively declining one through the large competition of capital for investment or labor. The proportion of the yard price in 1840 requisite in paying for a profit of 10 per cent. on fixed capital of a cotton mill, manufacturing standard sheeting was

					1.18 cents.
or of the yard price	.	.	.	13 per cent.	
In 1883—10 per cent. was	.	.	.		0.43 "
or of the yard price	.	.	.	6 "	
In 1885—6 per cent. was	.	.	.		0.25 "
or of the yard price	.	.	.	4 "	
per yard of the same sheeting.					

In the cotton industries of England the same results of decreasing capital earnings are observable. I refer here to a financial statement of sixty-five cotton-spinning establishments of Oldham, in the *London Economist* of May 16th of this year. They make a showing of an average of 4 per cent. of annual net earnings, against 6 per cent. in 1883.

PROGRESSIVE RISE IN FRANCE AND ENGLAND.

For the establishment of the fact of progression of earnings, I will briefly review France, England, and the United States. John Locke ("Journal of Travels in France") in 1677 estimated the income of a French peasant at eight cents a day, hardly enough to keep himself and family in bread. Moreau des Jonnés finds this estimate high, as it applies to one of the best districts. Fr. 120, or \$24, for 300 working days, was, according to the calculation of this statistician, the whole income of a peasant and wife, both working the farm. Corn prices were higher than to-day. Mme. de Maintenon, writing in 1716, says that in Bourbonnais 1,700 farms were abandoned. As the cause is given that the animals were seized by the tax-gatherers, and that there was nothing left to the poor country people to work and to cultivate the soil. In 1840 the income of the farmer was estimated at 32 cents a day, or for the year 456 francs, or over \$90. In 1856 Moreau des Jonnés estimated the income at 562 francs, or \$112. In manufacturing industries in 1850 the rates of pay were: for men, 2 francs, or 38 cents; for women, 1 franc, or 19 cents; and for children, 12 to 14 cents.

In 1876 the Commission of Inquiry appointed by the National Assembly made this statement through Mr. M. Ducarre:

TABLE OF DAILY AVERAGE WAGES.

1853.			1871.
Paris . .	{ Men . .	3.82 fr., or 72 cents.	4.99 fr., or 95 cents.
	{ Women . .	2.12 fr., or 40 cents.	2.78 fr., or 53 cents.
Depts. . .	{ Men . .	2.06 fr., or 39 cents.	2.90 fr., or 56 cents.
	{ Women . .	1.07 fr., or 20 cents.	1.48 fr., or 28 cents.

Maurice Block's *Annuaire Statistique* for 1884 gives this as the average of wages, according to the Mayor's report of the capital cities of the departments:

DAILY AVERAGE WAGES.

1853.			1880.
Paris . .	{ Men . .	3.82 fr., or 72 cents.	5.59 fr., or \$1.06.
	{ Women . .	2.12 fr., or 40 cents.	2.92 fr., or 56 cents.
Depts. . .	{ Men . .	2.06 fr., or 39 cents.	3.35 fr., or 63 cents.
	{ Women . .	1.07 fr., or 20 cents.	1.75 fr., or 33 cents.

which, compared to the wages rate of 1861, shows the continuity of a slow but permanent rise.

It is well to say in this connection that the frequently quoted Government Report informs us of the otherwise well-authenticated fact, that wages in France rise slowly, but that they never recede from the height once attained.

For England we have still more complete data of comparative earnings in an increasing ratio. Before establishing the rate of wages paid a hundred years ago, when the good old times had full swing, we have to look at the price of corn. To understand the importance of this, it is necessary to know that, according to Mulhall's calculations, the following percentage is taken for food alone, when wages are as stated below :

RATES RULING IN COUNTRIES.¹

Average wages per week.		Wages.	Food.	Ratio in surplus for other exp.
Great Britain . . .	31s. or \$7.43	100	45	55
France	21 " 5.04	100	57	43
Germany	16 " 3.84	100	62	38
United States . . .	48 " 11.52	100	33	67

About 1795 Frederic Eden took down the average earnings of four agricultural families for each of twelve counties, fifty-one families as stated by Thorold Rogers. They are 10s. 9d., or \$2.58 per family, in which about two thirds may stand for the

¹ It is evident that Mulhall does not sufficiently consider that high earnings conduce to better feeding, as well as to a greater surplus for other purposes. While it is certain that low earnings are first used to supply food and leave only a small surplus for other expenses, as in Germany, it does by no means follow that with increasing earnings the ratio for food should not rise in a far greater degree than given above.

earnings of the head of the family. Robbed of his patrimony through the various enclosure acts, with corn averaging for the last quarter of the eighteenth century at 51s. (81s. per quarter being the price in 1795), of course the poor-rates had to make up for the deficiency.

The weekly wages of agricultural laborers in Northumberland are stated in the Report of the Royal Commission on Agriculture (Leoni Levi, 1885):

	Weekly wages.	Average price of wheat for five years.
1851	11s.	56s. quar. or \$1.68 bushel.
1861	16s. 6d.	48 " 1.42 "
1871	15 6	55 " 1.65 "
1881	18	42 " 1.25 "
	Present price, 32	" .96 "

Wages rose with a progressive decline of wheat.

In 1785:

Carpenters' wages were	2s. 6d., or 60 cents a day.
Bricklayers' "	2 4 " 57 "
Masons' "	2 10 " 63 "
Plumbers' "	3 3 " 73 "

The rate of increase has been about as follows:

	1785.	1850.	1860.	1870.	1877.	1883.	(Manchester.) 52 hours.
Joiners, week	\$3.60	\$5.76	\$6.72	\$7.68	\$9.26	\$8.72	
Bricklayers, week . .	3.42	6.24	7.20	7.68	10.35	9.28	
Masons, week	4.08	5.76	6.48	7.20	8.90	7.84	
Plasterers, week . . .		6.24	6.72	7.68	9.12	8.72	
Laborers, week		4.07	4.32	4.90	5.72	5.40	

A hundred years ago factory labor was not a whit better paid than other branches, of which I gave quotations above. Taking 1765, a year of peace and low corn prices, the weekly wages of weavers were from \$1.70 to \$2.40 and \$2.88; for iron-workers, \$2.40; and Sheffield paid \$3.25. At Newcastle, colliers earned \$3.60, and at Wakefield, \$2.64.

The average weekly wages of women in textiles were . . .	\$1.02
" " " boys " " . . .	.72
" " " girls " " . . .	.62

These rates have grown, to the present time, as follows :

	1850.	1860.	1870.	1877.	1883.
Iron-puddlers	\$10.80	\$9.60	\$9.60	\$10.80	\$11.52
Mechanics	6 72	7 20	7 20	7 44	7 44
Laborers	4 32	4 32	4 80	4 80	4 80
Colliers	4 70	6 18	5 86	6 86	6 30

Cotton-mills, hours of labor $56\frac{1}{2}$ since 1874, before 60 hours :

	1850.	1860.	1870.	1877.	1883.
Mule-spinners, male . .	\$9.12	\$9.12	\$8 64	\$12.72	\$9.60
Piecers, female	1 56	1 56	2 64	2 64	2 64
Rovers, female	1 81	2 64	3 36	4 08	4 32
Overlookers, male . . .	5 23	6 00	7 20	8 38	9 12
Strippers and grinders .	2 40	3 12	4 32	5 04	5 04
Mindors, male	10 32	8 00	9 60	11 80	11 04

The United States show a like progressiveness in the wage-rates during the period of industrial development dating from 1840, and of farm labor likewise. I shall leave out the years of currency inflation, when wages were higher, but had a much smaller purchasing power than in 1860 or 1883.

To show this fully, I will give a statement of farming rates of labor compiled by Mr. David C. Voorhees, of New Jersey, for the Commissioner of Agriculture, for the last twenty-five years, and also the purchase power of wages expressed in food supply :

	Price, Bush.		Rate of wages.		Year's wages purchase.	
	Corn.	Wheat.	Per year.	Per day in harvest.	Corn. Bush.	Wheat. Bush.
1860 . .	\$.75	\$1.40	\$130	\$1.75	173	93
1861 . .	.60	1.25	100	1.50	167	80
1862 . .	.60	1 50	120	1.50	200	80
1880 . .	.50	1.12	150	1.75	300	134
1881 . .	.47	1.35	150	2.50	319	111
1882 . .	.60	1.18	150	2.50	250	127
1883 . .	.50	1.12	150	2.50	300	134
1884 . .	.40	.75	150	2.50	350	137

According to the census of 1850 farm hands in New Jersey received 88 cents a day without board. Carpenters' wages in New Jersey were \$1.28; in the State of New York, \$1.38 a day.

The yearly average earnings in manufacturing industries for

1850	were	\$247
1860	"	290
1880	"	347;

1880, however, was a year of inflation, being the boom year. The greatest proportionate rise in wages is noticeable in 1850-60, when the purchasing power of money in the United States was higher, on the whole, than in 1880. It has been shown lately, through an extended inquiry by *Bradstreet's*, that a decline from the rates paid in 1883, the highest wage-period of recent years, had taken place, most pronounced in industries which have highest protective tariffs, such as woollens, iron, coal, etc., while such, which by their very essence cannot be influenced either way by tariff legislation, had hardly suffered any wage reduction from the highest rates of 1883. This would show again that the natural wage-tendency of our industrial situation is an upward one, or, to say the least, to maintain the standard once obtained, which, however, if forcibly interfered with, as by tariff legislation, must suffer decline. But even this may be considered a transitory condition. That the general movement is an upward one, may be taken from an account of wages taken from the Standard Sheetting Cotton-Mills, from which we have quoted above, showing the increasing productiveness of labor, decreasing labor cost, and decreasing expense and profit cost. The annual earnings of operatives in these mills, compared with 1840, are as follows:

Year.	If paid in sheetting. Yards.	Year.	Per hour. Cents.
1840 . . .	1,936	\$175.00	4 49
1883 . . .	4,097	287.00	8.80
1884-5 . . .	4,154	270.00	8.37

5.—REDUCTION IN THE HOURS OF LABOR.

Hand in hand with increasing earnings has gone a corresponding reduction in the hours of labor. It is a very reassuring fact that

the working hours are shortest to-day in countries where wages and productiveness are highest. While the week in England averages 54 to 56 hours, Germany's and France's week still averages 72 hours, with many industries at 78 hours. Switzerland has some time ago adopted a normal working day of 11 hours. The report of the Factory Inspectors for 1882 and 1883 finds much to say on the improvement the act has worked in the condition of the working people. As with all innovations of this kind, of course, many manufacturers express disparaging opinions, while a great many more make favorable comment on the results achieved thereby. Massachusetts has fixed 60 hours by statute without having experienced any incursion by competing neighboring States, which still adhere to longer hours. It has been the common experience, wherever tried, that shorter hours enable the workman to put more energy into his work.

In the early part of this century, in English cotton-factories the week extended to 74 hours; from 1833 it was reduced to 69 hours. From this it went gradually to 60 hours, and in 1874 to 56½ hours, which may be considered the normal working time of the week in Great Britain, although there are trades where 50 to 52 hours is the rule.

In the United States the extent of the working day in cotton-mills is quoted by Mr. Atkinson as having been 13 hours in 1840; this was by degrees reduced to 11 hours, and since 1883 to 10 hours in Massachusetts, with other States beginning to move in the same direction, the State of Rhode Island having adopted a 10-hour day within a month of this writing. In speaking of the building trade and of the normal working day of eight hours in the latter part of the Middle Ages, Thorold Rogers says: "Employers are very likely to discover that the laborer's resistance to an excessively long day was not entirely personal, and that the work might suffer from the workman's weariness and exhaustion." The excellence of the work, lasting through ages, when more recent constructions have disappeared entirely, is even a more eloquent proof of the soundness of the economic views of our forefathers, than the voices which are raised from the grave of yellow parchment.

Germany, then at the head of Europe in commerce and manu-

facture, the economic ruler of the world, the banker and trader of Europe, held to the same rules during its high tide of prosperity. All of which shows that reasonable hours are not at all incompatible with great activity and productiveness ; nay, that they are a necessary condition to their achievement.

CHAPTER XIV.

I.—THE INFLUENCE OF FREEDOM ON THE CONDITIONS OF THE WORKING CLASSES.

An Historic Parallel.

POLITICAL economy is called the dismal science. Wrongly so. Under theoretical and dogmatic treatment it may deserve this off-hand dismissal. But when placed in a truer position, that of an historian of the development of the social organism, then the case is different. When by analytical inquiry into the methods of production and distribution it can be shown that the result of the undisturbed play of social forces has been the one indicated in the head-lines of the five subdivisions of the preceding chapter, then hopefulness must take the place of pessimistic despondency. A science which can lay bare, by inductive investigation, the inner workings of correlative forces in the body politic, and can prove that the ascendancy of democracy has given to the poor more and better food, more and better clothing, and better housing, all coupled with lessening toil and hardship, then such a science ceases to be a dismal one, and assumes the proud position of a comforter and teacher of mankind.

The powerful influence of these forces upon production wrought by a high standard of living of the working classes can best be shown by an historic comparison. I have often alluded to the small productiveness of Germany. I have shown the small earnings and poor living of most of its people. This has not always been so. A glance at Germany during the great Quinto Cento, the last century of the much-abused and misunderstood Middle Ages, gives us a parallel, which brings out our points in strong relief and contrast. Economically, commercially, and financially, Germany occupied then the position which England holds to-day. Without a central government which deserves the name, for over two centuries the German towns had to rely on their own re-

sources, and on the manly, sturdy spirit of their citizens to work out their own salvation. Behold what great work they organized and shaped, unaided by any power from without, but much hindered, rather. Between the jealousies, the aspirations, and petty wars of the robber-barons and rising dynastic houses, the townsmen had to be prepared continually for bloody work. They did this work, when necessary, very effectively. They were a valiant, manly race. They had to shape their own destinies. When hard pressed, no one came to their rescue. Within their walls they had to organize a state of their own. One by one they obtained their privileges and rights from the crown until they had gained full freedom, the right of self-government and taxation. The power of the towns soon overawed princes and empires. The Hansa dictated laws to all the Northern kingdoms. They made and unmade kings. In the North, from Brugge, Bremen, Lübeck, Hamburg, they carried the commerce of the world to Novgorod, to London, and to Bergen in Norway. The trade of England centred in their hands. With the principal Hansa-house in London, the *Stahlhof*, which represented their interests in a larger sense, they had their trading-houses and guilds in Lynn, Boston, York, Bristol, Hull, Ypswich, Yarmouth, Norwich, etc.

These warrior merchants had to keep the waterways free from pirates and the landways from the noble passions of knightly brigands. In the South, Augsburg, Nuremberg, Ulm, Strasburg, Berne, Vienna, etc., transacted the business of exchanging the products of Italy and the Orient with those of Germany and the North. The treasures which poured into German cities are recorded in indelible characters to the present day in the great cathedrals, city halls, guild- and council-houses, and in the palaces of some of their private citizens. The wealth of the *Welsers*, the *Fuggers*, the *Hochstetters*, etc., etc., has disappeared; the great pulsation of vigorous life has fagged away in the centuries of depression and oppression which followed in the wake of the Reformation and counter-reformation and their bloody wars.

But the great epoch has left us its object-lesson, the work of its free citizens, in the monuments of its architecture, sculpture, painting, wood-carvings, armors, metal-works, all showing the great skill and greatness of conception of workers, masters, and

thinkers. It is hardly necessary to dive into the chronicles of that time for reference, when we have such witnesses before our eyes. The impression which German life made upon foreign travellers, however, is worthy of note in this connection. Pierre de Froissard, writing in 1497, says :

"We are filled with admiration when we see how enterprising and courageous German merchants are, how they understand to increase their wealth. The prosperity of the cities, the beauty and grandeur of its public and private buildings, and the treasures in the interior of their houses are telling witnesses of this wealth. It is a great pleasure to tarry in these cities and to take part in the public amusements and festivities of the citizens."

Æneo Sylvio Piccolomini, later Pope Pio II., writes in 1458 : "We say it frankly, Germany was never richer, never more brilliant than to-day. The German nation is in advance of all others in greatness and power, and one may truly say that there is no people to whom God has vouchsafed as much favor as to the German people. Everywhere in Germany we see cultivated grounds, cornfields, vineyards, flower-gardens, and orchards, in town and country, everywhere fine buildings, pleasant villas, castles upon the hills, and walled cities. . . . To speak the truth, no country in Europe has better and brighter-looking cities than Germany. Their exterior is fresh and new ; it seems, though, as if they had been completed but yesterday. Nowhere else does one find as much liberty as in German cities. The inhabitants of the so-called free states of Italy are, in reality, slaves, in Venice as well as in Florence or Siena. The citizens, with the exception of the few who constitute the government, are treated as slaves ; they can neither use their money as they seem fit nor say what they please, and are subject to the severest exactions. With the Germans, on the contrary, every thing is bright and happy ; no one is threatened in his possessions, every one is safe in his inheritance, and government injures no one except him who injures others."

The German plebeian townsman had conquered the obstinate resistance of the patrician. The craft guilds played a prominent part in the city government. Every thing pertaining to the craft was regulated by the guild in the guild-hall. The workmen were equally free and powerfully organized in trades-unions, which

frequently extended their organizations over the whole of Germany. They carefully guarded the honor and dignity of their craft, and their social position was a high one and jealously guarded by them. In illustration, the journeymen bakers of Colmar : they struck work in 1495, and kept up the contest for ten years, until a decision was rendered by an arbitrator in their favor, and they were put back to their privileged rights, to march in an advance position in the Corpus Christi procession.

Many cases of a like nature are recorded. We should call them to-day sentimental grievances. But the workingmen's insistence on rights of this nature shows that they considered themselves, and were considered by common consent, equals in every sense of the word, and is evidence of a satisfactory material and pecuniary position. Sentimental grievances are not raised by working people when their condition in life is of a low type. Most disputes, however, were settled to the satisfaction of both parties by the guild or the town-council. Wages were high, considering the great purchasing power of money, the low prices of commodities, and the fulness of board, lodging, washing, etc., all of which were provided in the master's house, and all regulated to the minutest details by agreement of the guild on the one side and the trade-union on the other side. The records of the day furnish evidence of this, which in profuseness leave nothing to desire. Mutuality, the leading principle of feudalism, exercised its power in the relations of masters and workmen, and showed the satisfactory conditions of the latter in the work which they performed, and in the great demand in which German manufactures and German workmen stood in foreign countries. One Felix Fabri, from Ulm, wrote in 1484 : "If any one desires good work done in metal, stone, or wood, he intrusts it to a German. I have seen German goldsmiths, jewellers, masons, and carriage-makers do wonderful things among the Saracenes ; they excelled Greeks and Italians in skill. The Sultan of Egypt availed himself of the advice, the skill, and the work of a German in the erection of the wall around the harbor of Alexandria, which is the admiration of the whole East."

Germany's exports consisted largely of German linens, woollen cloths, metal-work of all kinds in gold, silver, bronze, copper, iron,

and steel, wood-work, etc., etc. Over 300,000 pieces of linen were bleached alone upon the bleacheries of Ulm, in Suabia, each year. Ulm has especial natural facilities for bleaching, which gave it great importance in the linen industry up to the present time. But its importance as a linen-manufacturing town can be measured from its own production of over 200,000 pieces annually at the period mentioned. The manufacture of woollen cloth was a great industry in Southern Germany and in the Rhenish provinces of the empire. One of the writers of the time, J. Wimpheling, in *De Arte Impressoria*, says :

“In many Westphalian towns loom touches loom, and it is difficult to estimate how many hundred thousand pieces the guilds produce month after month. The weavers are everywhere as industrious as they are skilled, and stand in high esteem with their fellow-townsmen.”

Division of labor was practised to a large degree ; especially so in the finer arts and crafts ; in metals prominently so. Special parts of an armor were frequently made by a special group of workmen, which explains the skill and perfection which the pieces display that are still in existence.

The woollen industry was likewise divided into many branches. Those who made woollens of fine Flemish and Italian fleeces were a different guild from those who worked the coarser home-bred wools. There were, besides the weavers, the wool-combers, the cloth-shearers, the fullers, the frame-tenders, the finishers, etc., all organized in separate crafts and trades. This minute subdivision alone explains the great efficiency and productiveness of labor of that great period. Even the dyeing craft was subdivided into black dyers, fine dyers, madder dyers, etc.

The standard of living of the workingmen is observable from the many regulations handed down to us as to the food they were entitled to. They seem to have been very lavish in their outlay for clothing, ornaments in gold and silver, etc., etc., which the town-councils often felt themselves called upon to repress, vainly though, by occasional ordinances and proclamations. It appears therefrom that silk and velvet were not uncommon articles of dress among them. The rich gifts which we find recorded as their offering to churches and other pious foundations speak equally

well for their favorable financial conditions. Eating and drinking was granted in profuse quantities. The many disputes over settlements of the mooted questions as to quantities, the various dishes and kinds of food that were to constitute the meals, give a full account of the well-living of the working classes. Meat was given twice a day. The workmen frequently obtained two kinds of meat for dinner, with at least half a quart of wine. Many times we find wine twice a day as their portion. One regulation calls "that the meat shall reach two fingers' width over both ends of the plate." Wine, not beer, was the common beverage, and its great consumption by all classes is recorded so frequently by all writers of the time, that this alone might be considered a proof of general well-being. More than all, however, the great consumption of meat stands out in solid form as an indicator of the condition of the working classes. It is calculated that in Frankfort-on-Oder the consumption of meat was twelve times as large as in 1802.

We could give like accounts of the favorable condition in which the peasantry and the agricultural population at large was placed. We have numberless records of regulations governing the relations of lords and tenants, masters and servants. The latter's food and pay were as fully and carefully attended to as we found to be the case in reference to town population. Serfdom had almost entirely disappeared, and the sharp edges of feudalism had been smoothed and rounded. All in all, we find a full analogy of the facts brought out by Thorold Rogers regarding England. The state of the working classes, both agricultural and industrial, was as satisfactory in Germany as Rogers found it in England in his survey of the fourteenth and fifteenth centuries. In a recent publication ("*Geldwerth und Arbeitslohn im Mittelalter*," by Stephan Beissel, Freiburg, 1885) I find a history of prices, wages, and relations existing between master and workmen, from bills and records relating to the building of St. Victor at Xanten, which bring very satisfactory support to Professor Rogers' conclusions, that low prices and high earnings of the working classes go hand in hand. But low prices, in this connection, is only another term for a high rate of productiveness, which necessarily must end in great consumption, or what is the same, high earnings.

German students of the economic history of that age agree that at our time the middle classes do not keep so good a table as was the custom among the working people then.

Compare this with the present diet of the German working classes, when meat is an almost unknown quantity upon their tables, except an apology of it on Sundays and holy days; when potatoes, chicory coffee, and rye bread form the almost universal and main articles of food; then we may well pause and ask ourselves whether declining productiveness does not stand in causal relation with a reduced standard of living.

When we unfold these facts, then we find a full retort to the exclamation of Prince Bismarck, that Germany is three hundred years behind and cannot be compared to England or America. The German people are of the same stock now as then. They are of the same stock that made England's and America's greatness. But the liberty of action, the freedom of thought, which formed Germany's greatness in the fourteenth and fifteenth centuries, was suppressed by the ascendancy of absolutism and the reversal of the old popular law (*Volksvecht*); while England, not weakened by disastrous wars, like the great peasants' war and the thirty years' war, could save itself from the sad fate which overtook Germany's popular rights.

2.—ON GUILDS AND WORKINGMEN'S ASSOCIATIONS.

Not a quarter of a century had elapsed since the Reformation, when the signs of barbarization were visible all over Germany. The decline and decay of art, manufactures, and commerce, of the comfort and well-being of townsmen and peasants, followed in the wake of the social, religious, and political disturbances which agitated Germany all through the sixteenth century. The thirty years' war sealed Germany's doom. Territorially and economically, it left it a waste. Politically, it made it a nonentity. It made an independent sovereign of every little baron, count, or duke. Every one of these opera-bouffe potentates was a miniature copy of the great Louis or his successors. They imitated all the vices of the French court without possessing the refinement which could make them otherwise than loathsome.

The worst, however, was the fearful oppression which this half

thousand of petty despots heaped upon their subjects in the way of taxation and burdens. Every one of them had his custom-house and his army, if only of two privates, a captain, and a general. A retinue of court officials was a matter of course with each of these mignonette rulers. Always ready to make a bargain with foreign powers, and being more bent on selling their male subjects, as so many heads of cattle, for foreign battle-fields and keeping their harems well stocked, they certainly had no great solicitude for the welfare of their subjects, whom the Westphalian treaty had delivered into their hands. Under such circumstances it cannot surprise that it took fully two centuries till Germany had recovered from the terrible wounds the thirty years' war had inflicted. Under the rule of absolutism and restraint of all kinds, free citizenship could not exist. Despotism has never developed industrial and commercial greatness, but, on the contrary, has destroyed this as well as the happiness and well-being of the people, who had enjoyed these blessings under more favored circumstances. Spain, Italy, Germany, and France under the old régime (not to mention the unspeakable Turk) give lasting examples.

It is, therefore, impossible to judge the guilds and associations of the fourteenth and fifteenth by those of the later centuries. The former were the natural development of a state of society in which the individual had to seek shelter somewhere from the aggressive power of the mail-clad horsemen. The people had either to be the baron's men or they had to protect themselves by their own means against the baron. The walled bourg or town offered this shelter, of which the country-people availed themselves with alacrity. They were welcome guests at a time when strong arms were the best friends a man could have. This gradual strengthening of city and town weakened the powers of the lords, and at the same time offered markets, always near, for the produce of the soil. In this wise a gradual pacification, civilization, and general raising of the conditions of all classes had taken place, which happy development culminated in about the latter half of the fifteenth century. The guilds were the result of a strong impulse for self-preservation, as well as a necessary condition for the achievement of great ends in town politics as well as in trade, manufacture, and commerce. The results which

they brought about were in themselves the strongest proofs of the necessity of their existence. The workmen would have been powerless in the hands of their masters, had they not followed their example. The result also shows that their labor-associations were well-timed, as the two centuries of mastership in manufacture and commerce amply testify. The admission into the guilds was easy. Workmen were employed, from wherever they came. The fourteenth and fifteenth centuries find workmen, masons and master-masons, stone-cutters, etc., from all countries engaged in the building of St. Victor at Xanten. So was money circulating freely whether coined in Germany or elsewhere. The end of the latter century, however, finds already every thing narrowed down to "home production." All of which shows the great freedom that had gradually worked through the hard crust of feudalism into the open air, promising greatness and happiness to the people. It was not to be, and it was left to our own time to take up the great work of restoration.

The guilds, during the succeeding centuries, were gradually decaying into petrified monopolies. Their whole aim was to exclude new-comers from sharing in the benefits and advantages of their position, to prevent competition by keeping down the number of masters, and to prevent workingmen from asserting their rights by all sorts of legal devices, which the ruling powers were only too ready to supply.

It cannot surprise, therefore, that the manufacturing industries had declined. Neither can it surprise, that Colbert could not think of better means of raising them again to a higher standard, than state-supervision, the leading remedy for all evils in a political status, expressed in the device: "*l'état c'est moi.*" The many ordinances and laws promulgated under his administration, the directions given to his factory inspectors, and their reports show the decline of the various industries, as well as the degree of corruption and deceiving practices which had taken hold of the management and curtailed the usefulness of the guilds.

The sequel proved that nothing short of a total abolition of all guilds and corporations and the grant of absolute freedom to trade, manufacture, and commerce could restore health and growth to industry and commerce.

This opinion had gained ground in the latter part of the eighteenth century. Long before the advent of Adam Smith's "Inquiry into the Nature and Causes of the Wealth of Nations," the Economists prepared the public mind. They had the opportunity of studying from life. They saw on the one hand the bad results of mean, gluttonous monopoly controlling production, and on the other hand, the equally bad results of government's constant interference, regulation, and prescription. Indeed both tended to the same end, that of dwarfing enterprise and enslaving intellect.

That Turgot could dare to promulgate his famous and really great conceptions in the form of laws, shows that the public mind had been well saturated with principles of economic truth. Though not all his reform measures were carried through, though many were withdrawn shortly after their publication, yet they were to an extent carried into practice. Of course, he met with fierce opposition from all sides. Not his great measures, however, but the jealousy of his ministerial rivals at court, was the cause of his fall and of the stinted execution of his measures. No one, however, gave a more earnest and honest support to Turgot than Louis XVI.—the best inclined and most unfortunate of all the kings of the house of Bourbon.

Turgot says: "I know no other means of imparting life to an industry than to give it the greatest amount of freedom and the removal of all taxes which the misunderstood interest of the fiscal administration has heaped upon every kind of merchandise." This is the spirit which pervades his reform plans. The freeing of the corn trade, etc., etc., by the laws of 1774 to 1776, from all restraints and taxes, is only an indication of the drift of his measures.

Guilds, monopolies, and police-regulations of industries were removed by the great edict of February, 1776, the year in which Adam Smith's great work made its appearance. Blanqui calls this law the charter of freedom of the working classes. In a memorial to the king, Turgot explains his views on the subject. He says: That the guilds prevent the development of the industrial arts, that they oppress the lower classes, that their administration is a very defective one, and that they increase the price

of commodities. He finally declares the time to be eminently favorable for this measure, on account of the revolutionary war just breaking out in the British colonies of North America. This war, he says, will stop the English factories and throw, if we establish a free industrial system, all of their workmen and trade into our hands.

His solicitude for the poorer classes speaks from this sentence of the law : " We are in duty bound to give to all our subjects the fullest use of all their rights. Before all we owe this guaranty to that class of men who have no other property than that of their labor and their industry. To them the use of this right to its fullest extent becomes the more important, as it is the only source from which they can derive their maintenance."

That his laws and regulations were partially removed in the succeeding years, and not even fully adopted by the Revolution, that guilds and repressive acts were resorted to again, is not the fault of Turgot. It only shows the difficult, labored, and heavy step in which mankind moves, even when genius has raised the beacon high, to illuminate the way. It does not even show that mankind moves slowly in the path of liberty and progress, but that monopoly and privilege die hard. The death-struggle still goes on. The weapons which freedom wields are, however, too destructive for old, decrepit, and time-worn institutions. The age of steam and electricity cannot possibly be burdened much longer with the rotten machinery of past centuries.

CHAPTER XV.

SOME ECONOMIC TRUTHS DISPROVEN BY FACTS.

THE teachings of Malthus, Ricardo, and their followers were based on inverted views. Malthus' conception was that of an insular pedagogue, who could not conceive the continuity of supply to be derivable from soils outside the narrow limits of a country, even if the soil of the country should not yield enough to supply the food for an increasing population. Indeed, economic writers indulge too frequently in the building up of an imaginary social creation. They show how society develops from an agricultural to a manufacturing community, how good soils are taken up first by husbandmen, that the poorer soils are taken up successively, and that rents represent only the excess, for a like expenditure, of the product of this land, over the product of the worst land cultivated in the same country. This theory, too, is a necessary outcome of the insular view, of an isolated existence, protected and fortified by corn-laws, of a view based on the immutability of vested rights and the unchangeable character of the social organism, the unchangeability of an organism which, if such a term is applicable, is the creation of change. The thought of every generation exercises its remodelling or destroying influence on the social organism as handed down from a preceding generation. It would be useless to lose words on this subject. Others have ventilated it sufficiently. I have, in previous chapters, shown the utter inadmissibility of such discouraging teachings. With the battering down of all barriers put in the way of the free admission of corn, the cheapest fields of supply have come to the rescue of starving millions. The whole situation is reversed, since the price of land in Australia and America determines the land tenure in England. When American and Australian wheat can be landed in Liverpool at less than one dollar a bushel, paying the railroads and steamships, and the farmer on his free homestead, a

profit, then it is useless to argue, whether rents are paid as the equivalent of the excess of earnings from good lands over those from poor lands, or whether they are paid on lands because they are nearer the market. The rent-collector will find his occupation gone when outside influences of the kind mentioned, determine the price of corn. Rent cannot be paid for land when free land comes in free competition with rent land. America, helping the English farmer and agricultural laborer to their ultimate liberation, however, has derived benefits from the free admission of her produce into England, which hitherto have hardly been recognized to their full extent. The value of an outside market for their surplus is hardly sufficiently appreciated by our agriculturists. Free trade in corn has given cheap bread to England's working people, and has contributed in making Great Britain the world's factory, but has besides raised the American farmer in comfort and wealth. The British price of corn was reduced and the American price was raised by the opening of the grain trade in England. Not so much as the shipping price is concerned, but so far as the money price is concerned which is paid on the farm. Forty years ago nearly the full value of a bushel of wheat would have been exhausted by freight charges from Ohio to the sea-shore.

The railroad by opening the country to outside markets has made it possible to take the farmer's surplus to the shipping point at a minimum of expense. After paying the carrying expense, even under the influence of low export prices, he has still more left as his share than at the time when but few railroads existed. The railroads and steamships have thus become levellers of prices, supplying cheap bread to the toilers of America and Europe, and still proving to the farmer a great boon. The railroad system of this country, and the great extension of steam navigation, would, however, never have found the great growth had it not been for the abolition of the corn-laws of Great Britain. Without the demand of foreign markets for our products, no one would have thought for a moment of building lines after lines of roads and steamships. By having an open market for the surplus, the grower of wheat, of corn, of pork, of agriculture products of all kinds, had gained a decided advantage over the manufacturer. The farmer, by finding a foreign market for his surplus, obtains

the full price for his salable products, less transportation expense, to the full extent of the foreign import price. The latter, by having all sorts of duties, or price increase, on his materials to bear, by means of custom-duties for protection, is debarred from obtaining relief through foreign commerce. Having to unload every thing on limited home markets, he has in times of depression to suffer all the ills which such an economic system entails on him.

No better demonstration could be found of the great utility of open markets to the producer, than in a comparison of the relative positions of the agriculturists and the manufacturers in protected fields of industry, when burdened by over-supply and closed markets.

OTHER FALLACIES IN SOCIOLOGY.

We have, in this inquiry into fallacies of political economy, to meet one of not less importance than those alluded to above.

Density of population has been considered as going hand in hand with increasing poverty. As a matter of course, it is intimately connected with the above doctrines. The whole economic philosophy of the time, slowly fading away, has been based thereon. But there is hardly a branch of the subject more clearly disproven by facts than this. Indeed, the development of our modern states prove the contrary. Not to speak of the older States of the United States, whose most densely populated sections are not yet approaching to any European conditions, but Holland, Belgium, Great Britain, France, Germany, all have increased in population more in this century than the most sanguine estimates could have anticipated. Wealth, however, has vastly overreached the rapid growth of population, which has taken place within the last hundred years. The countries most densely populated count among the richest, while the thinly populated countries, countries possessing the richer soil and blessed by nature to a far greater degree, are the poorest.

A statement of the estimated wealth of the principal countries of Europe shows this conclusively when placed side by side with population. I omit the value of forests and lands, as their increase in value is more due to other influences than wealth-creating activity.

	Wealth, exclusive of Lands and Forests.	Population.	Rate per Capita.	No. in- habitants per sq. kilo- metre.
Holland	\$3,800,000,000	4,000,000	\$950	118
United Kingdom .	32,000,000,000	35,000,000	915	109
France	25,000,000,000	37,000,000	676	69
Germany	20,000,000,000	45,000,000	445	79
Belgium	2,500,000,000	5,500,000	445	185
Spain	4,500,000,000	16,000,000	280	33
Austria	10,000,000,000	38,000,000	263	59
Italy	7,000,000,000	29,000,000	241	95
European Russia .	12,000,000,000	75,000,000	160	13.7

So far as fertility of soil is concerned, of that part of Russia which stretches from a line running from Warsaw and Moscow to the Ural Mountains southward, no other country could show better means of creating wealth. Not considering at all the northern part of Russia, but counting all her population into the southern half, her density would not be more than 27 against 109 of the United Kingdom, 118 of Holland, and 185 of Belgium. There would be room for 300 millions in the southern half of Russia to give the population the density of Holland, and for a sixfold increase of wealth to bring it up to the per-capita rate of Holland.

If any thing were to be proven by such facts in the nature of a relationship of wealth and population, the exact opposite could be deduced from these figures. I do not, however wish to prove any thing of the kind, or set up a theory of my own. On the contrary, I wish to point out the fallacy of such reasoning as underlies our wealth theories. The utter irrelevancy of such doctrines must be demonstrated, before we can commence to lay down more rational ideas about the causes which lead to the creation and the accumulation of wealth.

Neither soil, climate, aspect of the country, rivers, density of population are of account if the one great spring of all blessings is wanting: security from aggression and freedom from restraint. The burden of poverty of states is self-imposed. Narrow selfishness has riveted the chains which hold men to poverty and want; selfishness blinded by greed, not the clear-sighted selfish principle, but its baser aspect as represented by the robber baron's, "Stand

and deliver." Enlightened selfishness would understand, that the greatest good to all is the source from which the greatest benefit to the individual must arise. State-craft, making itself the tool of a class, of an interest, of a policy in the interest of a part, no matter how large, must necessarily detract from the happiness of the whole. Without these restraints put on labor, on capital, or exertion, every one exercises his fullest capacity to the bettering of his circumstances, and becomes the most formidable instrument in the creation of wealth. This principle, now carried out in proportionate degree only, explains the greater or smaller amount of wealth represented in our table of wealth of the different nations. A hundred years have passed since the great master of political economy uttered these memorable words :

"The uniform, constant, and uninterrupted effort of every man to better his condition, the principle from which public and national as well as private opulence is originally derived, is frequently powerful enough to maintain the natural progress of things towards improvement, in spite both of the extravagance of government and of the greatest errors of administration. Like the unknown principle of animal life, it frequently restores health and vigor to the constitution, in spite, not only of the disease, but of the absurd prescription of the doctor." ("Wealth of Nations," book ii., p. 141.)

"The natural effort of every individual to better his own condition, when suffered to exert itself with freedom and security, is so powerful a principle, that it is alone and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often encumbers its operations." ("Wealth of Nations," book iv., p. 221.)

Though neglected, even spurned, these great principles always come back with increased force after every practical attempt in the opposite direction. The most careful and painstaking inquiry cannot discover any other causes underlying the greater or smaller degree of prosperity, than in the neglect or practice to a greater or smaller degree of this great and broad principle under whose cover the material and ideal progress of the race finds shelter and amplest room for development. Society is a living organism. Society

must find her own cures for all possible ills which may arise. But these ills will find least room to develop in the body, if treated like those of a healthy organism, instead of a sickly being always to be prescribed for and held under anxious and watchful nursing.

Freedom, however, is not license. It is not understood, that the depressing and oppressing powers of government, against which the "Economists" of the last century put their energetic protest into their "*laissez faire, laissez passer*" should be arrogated by individuals or corporations. This powerful remonstrance was as outspoken against the fungi of that time, as against the interference of an absolute government with individual liberty of action. To limit these powers to a minimum must always continue to be the solicitude of government. It can never be classified among the prerogatives of a fraction, to rob the people at large of their common rights. The guaranty of the rights of the poorest individual is the essence of the free state. Where they are assailed, as a matter of course, the government's function begins. But even here care must be taken lest interference, except against actual violators of laws, should intensify the evil which is to be dealt with, or cause evils of far greater moment to arise.

I will give an example in our railroads. No other agency, created by government, delegating its rights of eminent domain, has done so much to abuse a privilege and a trust as our railroads.

Called into existence at a time when only the freest and fullest grants of rights and concessions could have induced the necessarily large investments, to embark into enterprises of a doubtful character. The liberal rules then laid down became in most parts the framework of all future legislation. The State governments reserved but few rights. One of the leading principles was, that all customers were to be treated alike, that an excess of net earnings over a certain percentage was to revert to the State, etc. But how have they been abused?

Discriminations in freight rates have been carried to an extent that populous towns, remunerative enterprises, were ruined. Individual energy was paralyzed. Gigantic monopolies, fostered and fed by railroad favor, sprang up, destroying all competitors, who were rash enough to stand up against a most daring, un-

scrupulous foe. To charge whatever "the traffic will fetch" was the rule of all lines who had sole command of the field. Great earnings, far beyond the stipulated limit, led to fraud, to the invention of "construction accounts," into whose coffers the surplus was loaded. From there to the capitalization of earnings, to the watering of stocks, to the increase of capital share to double and treble the actual outlay. Wealth was created by the happy possessors of the inner control to the extent of tens and hundreds of millions. Valueless stocks and scrips were by misrepresentations raised to par. Once tested, this easy way of pocketing the people's savings was resorted to in another way, namely, by depressing the value of stocks so as to make innocent holders sell out at a great loss. Then they were bought in. The next step was to raise their value again by fabricated stories of high earnings and misleading financial reports. Great as the loss was all the time to the honest, frugal individual who allowed himself to be caught within the meshes of the immense net, spread over the country, yet, strange to say, the gain to the whole people was greater. The projection and building of railroads became thereby the aim of those who were eager to get control of an inside line of their own. Doubtlessly this sordid greed caused more lines to be built in the short period of five years, from 1879 to 1883, than would have been laid on the soil in fifteen, had actual necessity and honest enterprise commanded their construction. The earnings of railroads in consequence of this duplication have sunk to a minimum. Many are bankrupt, others are on the verge of bankruptcy, and unless prevented by combination, competition between rival lines is becoming so keen, that net earnings are often entirely out of sight. But the people have a system of railroads which cannot be undone. All the sections are united. The vast agricultural stores of the country are carried to the sea-shore at so trifling an expense, that, as stated above, our own husbandmen are growing in prosperity, while Europe's great landholders tremble at the peaceful revolution wrought within a half a generation. In all this I do not propose, but simply depose. I do not propose action or theory, but simply show that the free exercise of competitive action, even when showing itself in its worst and most repelling features, is fully capable of working its own

cure, or at least of bringing out a compensatory advantage to society.

THE FALLACY OF GREAT COMPETITION OF LABOR RESULTING IN SMALL EARNINGS.

This theory is born by the wage-fund theory, that there is only a certain part of the capital of a country available for the remuneration of labor, that wages are fixed by the ratio between the number of laborers and the amount of capital devoted to the employment of labor. We have given sufficient space to the refutation of this worn-out theory in Chapter XIII. Wages are paid, high or low, in proportion to the work that is in demand, be there an abundance or a want of capital, as in new countries. Wages are gauged by opportunities offered for work. That they do not depend on density of population, or even on the numbers seeking employment, or competition, when opportunities are plentiful, can be seen by comparing the state and composition of society in France in the XVII. century, and that of our own country in our own time.

Vauban's tables, mentioned in a previous chapter, give us a statement of the composition of French society towards the end of the XVII. century, which I will introduce here for comparison :

Clergy	266,000	
Nobility	250,000	
Privileged classes		516,000
Government employés, merchants, etc.		2,300,000
Peasants, farm laborers, etc.		5,200,000
Journeymen, mechanics, and laborers		8,300,000
Domestic servants		2,100,000
Beggars		2,600,000
		<hr/> 19,000,000

The number of offices created under the old régime was fabulous. They gave distinction, and were eagerly sought and paid for by the bourgeois classes. It is not too high to estimate their number—the army and navy, etc.—at 1,000,000. These, domestic servants, beggars, and the privileged classes, all non-producers, deducted from the total, leaves 12,800,000 as belonging to those engaged in useful occupations, or 65 per cent. against 35 per cent.

taken out of competition for employment in useful occupations. Domestic servants, of course, are a very useful class, but it will be readily understood that they do not come within our category. Beggars might have competed for employment, if they could have found it. But their existence to so large an extent shows clearly that the opportunities were wanting, and that they preferred a life of idleness and misery to a life of toil and misery, which was the rule of life of the working classes of the golden age.

Our own population are all workers. A life of idleness is a source of annoyance to even our wealthiest people. They cannot endure it for any length of time, when withdrawn from active life, partly from habit, general example, and from a total absence of an idle class to lend companionship.

In a nation of 17,000,000 of actively employed persons we have

1,000,000 of domestic servants,
60,000 clergymen,
25,000 soldiers and sailors,
115,000 employés of government, or
<hr/> 1,200,000

which can at all be called as standing outside of competition, or 7 per cent. against 35 per cent. under the old conditions. Still with all this great competitive force, with all this fierce competition going on in this country, with all this great working force constantly employed or seeking employment, with all this absence of privileged classes, of army, clergy, and governmental supervisors of every man's action, wages are higher here than in any other country where these elements still exercise a powerful influence in reducing the active force of competitors for employment. But it is just this absence of idlers, this abundance of workers, which creates constantly new opportunities for employment. It is the absence of privileged classes, of armies, of navies, which increases the value of labor and of earnings. And above all it is the great freedom which we enjoy in regulating our internal affairs. It seems almost useless to reassert here, that with such facts before our eyes as the results of freedom, it is almost a thing beyond comprehension that we have not extended as yet the great theory of freedom into the laws governing our external affairs.

CHAPTER XVI.

APPLICATION OF GENERAL FACTS TO OUR INDUSTRIAL SITUATION.

THE following we may set down as prominent characteristics of American industrial life :

1. Great productiveness of labor in general.
2. Universal application of machinery.
3. Profuseness of production, necessarily requiring great consumption and an unrestrained outlet for the product.

Unless this is obtained production will become depressed, which means that the standard of living of the working classes will become reduced, and labor as well as capital lose its prosperity in the competitive struggle for existence. The abundance of our public lands has so far acted as a safety-valve. Without this natural blessing the pressure would before this have become far more intense. The pressure of limited markets upon our productive forces would have become unbearable. But even now, with vast areas of unsettled lands, the danger-line is drawing nearer and nearer. The unemployed classes find it more difficult to obtain land upon their terms, except in localities which lie outside of their means of reaching them. If anywhere, here is the rightful domain of government to exercise its powerful influences. Land is the first and most prominent regulator of the price of labor. Its accessibility to the working classes secured on easy terms under a free government, every other problem will find its own solution. The overabundance of our labor finds its most profitable field there, when our artificial commercial system condemns vast armies of able workmen to enforced idleness. The overabundance of our industrial products finds an increasing market in turn, when this surplus labor has found its permanent resting-place again. Then in return a growing demand arises from lessened production in industrial branches and increasing

demand from extended agricultural centres, which demand cannot be filled at once, and we have the "boom." This has happened now three times in periods of seven to eight years during the last twenty years under our present fiscal system : Two to three years of great demand and high prices, followed by four to five years of decline and fierce competitive war among ourselves. We could turn our energies to more fruitful and less mortifying struggles if we were permitted to turn them upon foreign prey. The situation would be changed at once if we were permitted to trade with a thousand millions of people, instead of fifty-six millions, upon equal terms with other nations. This we cannot do successfully as long as there is a tax upon our raw material.

The labor-cost of American work is so small an item now in the construction of any article, that it is great negligence on the part of our legislators to continue in force statutes that tend to increase the price of materials of manufacture. To obtain markets under those conditions is possible only by pressing down the earnings of working people and of their employers. Both have to suffer, either through intense pressure of home competition or through reductions necessary to counterbalance the higher cost of material, if they seek foreign outlets for the product of their skill and energy. Take for example the clock manufacture in America. Every thing pertaining to the complex structure of a clock is done on the same premises, even to the making of the machinery which is used in turning every part of the work from the raw material into its proper shape for ultimate use in a clock. The raw material used is pig-iron, block-tin, and copper, lumber, etc.,—in short, the crudest forms in which materials are known to the trade. The rapidity of work, the quantities turned out by comparatively little labor, alone explains that very sightly clocks are made and sold at a dollar apiece, of which the direct labor-cost does not exceed twenty-five cents, perhaps. As a great part of their goods is sold abroad, it follows that the labor employed by these works at the highest rates ruling in the United States (\$550, according to the census of 1880, while the general average of factory labor is only \$350 a year) has to find markets in competition with European labor, which does not earn one third as much per day. Excepting lumber for the frames, perhaps there is not a dollar's worth of

material used in the construction of these goods which could not be bought at eighty cents, and from that down to sixty-five cents, by any German, Swiss, or English concern with whose products Americans have to compete in the world's markets. The same could be said about our sewing- and other machines, tools, implements, fence-wire, and so forth.

I have lately visited one of our Eastern shoe-factories, and examined the numberless details of work through which the materials have to go, until the last finish is put on a very graceful pair of lady's button-boots. Excepting the cutting of the pieces, everything is done by machinery, even to the sewing on of the buttons, one of the latest Yankee inventions. The combined cost of the many operations does not exceed the sum of thirty cents. The factory price per dozen is \$15, or say, \$1.10 net per pair. This includes packing expenses (wooden case and a paper box in which each pair is packed). They are retailed probably at \$1.75, and are good, solid, honest leather goods. No pastework. The earnings of the operatives are the average paid for this kind of work, and certainly twice as high as paid in England or anywhere in Europe. As every thing is piece-work, the operatives can earn high wages only when they possess an amount of efficiency and skill, which are acknowledged characteristics of Eastern operatives, male or female. The degree of intelligence and nerve power which the faces of the operatives show would hardly be found in any factory outside of America, and is the only answer we can give to the oft-repeated question: How if other nations adopt our methods? Many an English shoemaker, attracted by the high earnings of operatives in American factories, had to give up the contest, as he could not earn half the wages of an American with the same tools and in the same factory.

But other nations are slow to adopt our methods. The *Berliner Tageblatt* of September, 1884, in a long editorial, gives vent to its astonishment at the exposition of an "iron shoemaker"—"der eiserne Schuhmacher"—at the Industrial Exposition of Vienna. The writer dwells upon the fact that there are 250,000 shoemakers in Germany, and that the introduction of machine-shoemaking would displace certainly 200,000 shoemakers, and he consequently deprecates the innovation.

Now I will not disparage on Germany's great advantages. Her future is as full of promise, as her remoter past, dealt with in a previous chapter, has been great in the fields of enterprise, culture, and labor. With a studious, painstaking mind, assisted by institutions of learning in the fields of technology as well as in other sciences, unsurpassed and unequalled by any nation, her employing classes eagerly push to the foreground. None are more eager students of our practical lessons than the Germans. In the shoe industry her manufacturers come over here, to learn and study our system. Only last summer one of them came over to work his way through a shoe-factory in Lynn. When I asked of a Lynn manufacturer why they were not more guarded in imparting the secrets of their trade to foreigners, he answered: "They cannot do us any harm. If we had our materials free, and they had all our machinery, we could beat them yet with all their cheap labor." Continuing he said: "The trouble with the Germans is, they don't give their labor a fair show. When they introduce machinery by which they save in the cost of labor, they right away go to work to cut down the wages. This takes all ambition out of the work, and the result is that they get little ahead. One concern in Koburg has begun to work on a more liberal principle, encouraging high earnings, with very satisfactory results."

We find the great practical bearing of this lucid expression of the true philosophy of wages fully corroborated by ocular proofs. Man must see a chance before him, to work his way upward, if he is to employ his capacity to its fullest extent. There must be elbow-room. Fully used to this, American workers, placed side by side with European, show soon enough that they are made of different metal. I will give an extract from a recent article of Prof. Dieffenbach, one of the highest German authorities on technical education, in illustration. He says:

"More surprising still is the influence of North America upon handicrafts, and especially on the whole domain of mechanical technology. Here there is still a very wide difference between Germany and the United States. While our chemical technology has been distinguished by extraordinary advances, in consequence of which our chemical manufacturers have recently conquered a multitude of new markets, our mechanical technology has not developed at the same rate.

"There is a striking difference between the every-day requirements of the mechanical trades in Germany and America. Comparing the tools of the American mechanic and the German, we find the difference about as great as that between our axes and hammers and the axes and hatchet of the stone age. By means of an excellently arranged collection, originated by Privy-Councillor Dr. Hartig, Professor of Mechanical Technology, the Royal Polytechnic Institution at Dresden has made an intelligent exhibition of the gradual evolution of tools used in working wood, stone, and metals, in spinning and weaving. In this collection the oldest forms attainable are exhibited side by side with the newest, generally American, forms. These latter are not only distinguished by superior elegance and finish, but are handier and more reliable in their work. It is true that this juxtaposition of widely divergent forms is not meant to convey the opinion that the new are preferable in every respect, but to lead beholders to reflect upon the possibility of improving the forms hitherto clung to with great tenacity in our workshops, and to show them that such improvements, both in durability and effectiveness, can in many cases be accomplished at but slightly increased cost. In many things the United States may serve us as a pattern, and we feel sure that the example given us will not fail to be imitated in the Old World.

"Sewing-machines, as well as machines for boring, lifting, and sawing, were first given a more practical construction, first brought to perfection, in America. America brought about a complete evolution in the manufacture of leather, the most important after iron. There new and better tanning materials were first introduced, and there, too, new animal textures adapted to tanning were discovered,—as, for instance, the skin of the alligator and crocodile, which has so quickly won popular favor. There, too, leather was first split, and the splitting-machine is an American invention. But, above all, America started a revolution in shoe-making, which is now being carried out in the Old World. It embraces the tools used by the ordinary shoemaker, as well as machinery. Among the tools, we mention the edge-trimmer, Dunham edge-trimmer, polishing irons, polishing wheels, and heel-shave.

"What an American workman is able to accomplish by means of

these tools, may be seen by an example. The writer of this article spent a portion of 1878 and 1879 in Leipsic, where he became acquainted with a manufacturer of boots and shoes. One day an American applied for work ; he stated that he had come to Germany on account of his son, who had a talent for music, and whom he wished to have educated at the Conservatory. He said that he was looking for work in order to pay his son's expenses, and he desired to be allowed to use tools that he had brought over from America. The manufacturer agreed. Now, the American appeared at his place daily, looked neither to the right nor to the left, but attended to his work to the last stroke of the bell. The manufacturer soon noticed that he had obtained a man fully equal to the German hands in thoroughness and skill, and capable of turning out three to four times as much as any other, thanks to his exemplary diligence and his American tools. Wages being by the piece, the man earned more than enough to support himself and his son.

"In addition, we are tempted to remark that the American self-made man appeared to great advantage. A German family that discovers a pretty voice or some other musical talent in one of the children, does not feel called upon to provide for the cultivation of such gift. It petitions for a scholarship ; it begs the sovereign and wealthy patrons of art for assistance, and believes it to be the duty of all lovers of art to help along the wonderful child, which might, nevertheless, one day do itself and the world better service by plying the needle or knitting stockings. Among us, in Germany, great sums of money are spent every year in the education of so-called artists, and yet the expenditure is simply and absolutely so much money wasted. What did the American working-man think and do ? He regarded the education of his son as a speculation. I shall, he thought, work a few years longer ; I shall work harder, if need be, but if I am lucky I shall have no cares in my old age, and be under obligation to nobody."

In this generous recognition of the American's worth, Professor Dieffenbach touches the main-spring of America's success. It is a gift from *within*, not from without. The American knows that he is the maker of his own destiny. He aspires to the highest. Freedom from restraint has developed the highest type in America.

With such productive powers at our command, with the labor-cost reduced to so trivial a sum, the cutting-down process resorted to by manufacturers, as a means of stemming the ruinous tide of competition, is absolutely superfluous. It does not alleviate the evil; it intensifies it. It cannot make American markets consume more product. It cannot give us foreign markets, so long as our materials are heavily taxed. Our labor, assisted by machinery, is so efficient and cheap now, that with free materials we could advance our labor price, and still be able to undersell European labor in any of the neutral markets of the world. We could add to the yearly earnings of our toiling millions many a week's, nay month's, employment beyond that offered by our circumscribed markets at home. By opening foreign markets to the products of the toil of our workers at home, and thus increasing their earnings, we should create the most lucrative colonies that any nation has had in the history of the world.

APPENDIX TO CHAPTER VI.

THE report of the Chamber of Commerce of Crefeld, just published, shows clearly that very little change has taken place as yet in the industrial system of the German centre of silk manufacture.

The average number of weavers and looms employed during the years 1882, 1883, and 1884 were as follows :

	1882.	1883.	1884.
Velve. and plush, hand,	17,812	21,770	22,085
“ “ power	299	651	1,018
Velvet ribbons, hand .	541	1,003	484
“ “ power .	72	159	68
Silks and satins, hand .	16,425	12,690	12,987
“ “ power .	400	657	893
Cut ribbons, hand . .	58	80	} 70
“ “ power . .	25		
Totals	35,632	37,010	37,605

The advantages derived from the employment of hand-loom in the silk industry are manifold. One of great importance in price-making is the employment of cheaper kinds of silk, while the power-loom requires the best and most expensive grades. This, and the greater facility of changing looms to suit the manifold requirements of fashion, the greater ability of the manufacturer to regulate his production according to the demand, and thus putting the burden of depression upon the workingman instead of carrying the greatest share himself, as is the case with owners of power-mills, may be given as correlative reasons for the slow progress which the power-mill has made in Europe in the silk industry.

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